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Lutzka et al.

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(54) **TONNEAU COVER ACCESS PANEL**

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(73) Assignee: **Bestop, Inc.**, Louisville, CO (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **16/859,195**

(22) Filed: **Apr. 27, 2020**

(65) **Prior Publication Data**

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Related U.S. Application Data

(63) Continuation of application No. 16/271,437, filed on Feb. 8, 2019, now Pat. No. 10,668,795, which is a continuation of application No. 15/487,037, filed on Apr. 13, 2017, now Pat. No. 10,239,394, which is a continuation-in-part of application No. 15/342,761, filed on Nov. 3, 2016, now Pat. No. 10,363,801.

(Continued)

(51) **Int. Cl.**

B60J 7/14	(2006.01)
B60J 7/10	(2006.01)
B60J 7/185	(2006.01)
B60J 7/08	(2006.01)

(52) **U.S. Cl.**
CPC ***B60J 7/141*** (2013.01); ***B60J 7/085*** (2013.01); ***B60J 7/102*** (2013.01); ***B60J 7/185*** (2013.01); *B60Y 2304/03* (2013.01); *B60Y 2304/05* (2013.01)

(58) **Field of Classification Search**
CPC ... B60J 7/141; B60J 7/102; B60J 7/185; B60J 7/085
USPC 296/100.15, 100.16
See application file for complete search history.

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Primary Examiner — Joseph D. Pape
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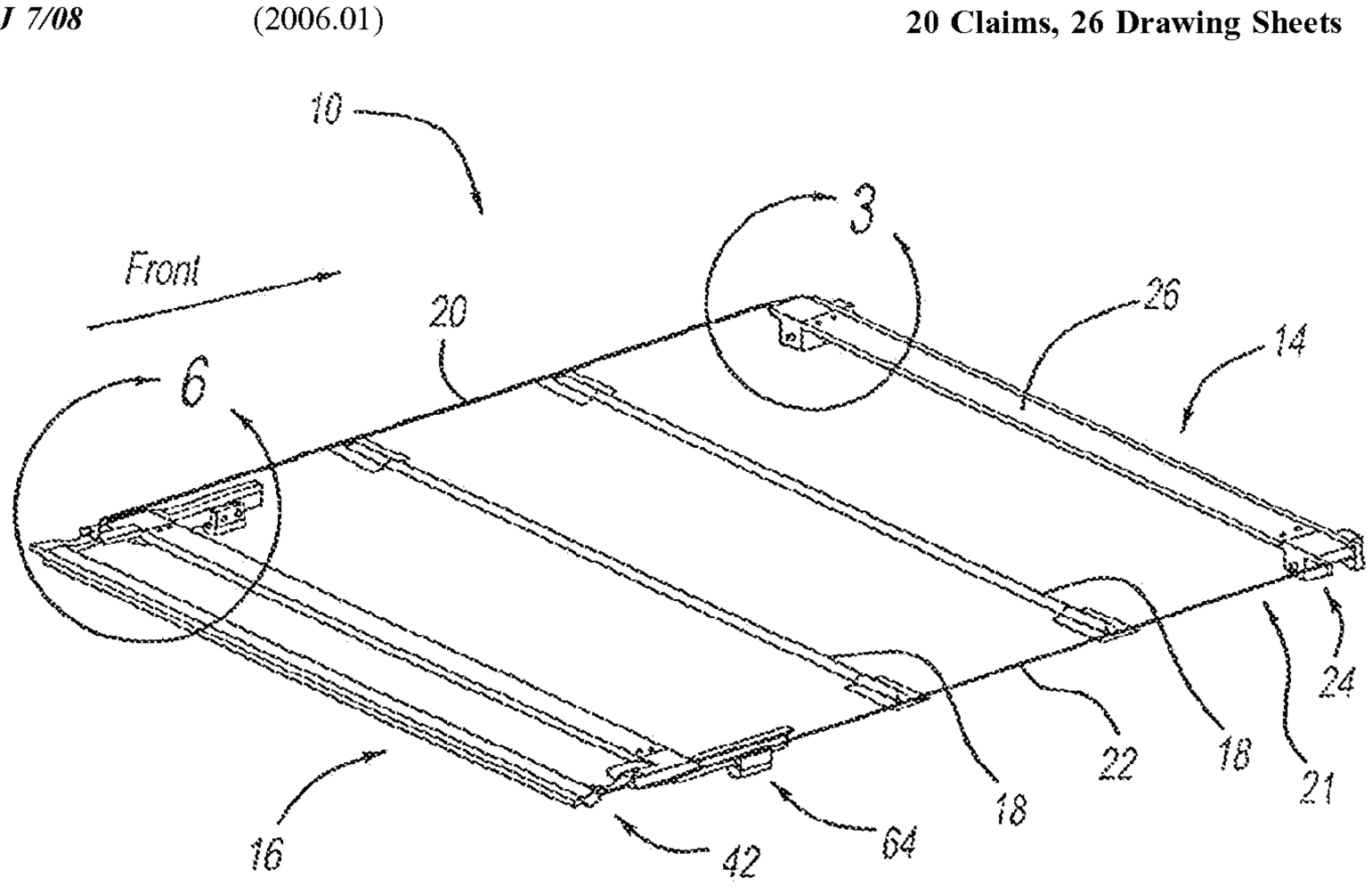
(57) **ABSTRACT**

A tonneau cover access panel assembly connectable to a vehicle that eliminates the need for side rails to both locate and tension a tonneau cover. The assembly also reduces weight and complexity. The assembly incorporates a readily accessible rear latching system that reduces or eliminates interference with the tonneau cover during operation. The assembly also incorporates a tonneau cover tensioning system. The tension seals out environmental elements and holds the tonneau cover and locating bows in place. The assembly holds the tonneau in the closed tension state keeping the tonneau cover secured and tight until the cover is opened by an operator. The assembly is movable between a closed position and a fully open/stowable position and any intermediate positions. The assembly is also movable between at least a first open position and the deployed position for more limiting access to the cargo bed of the vehicle when desired.

20 Claims, 26 Drawing Sheets



Related U.S. Application Data

(60) Provisional application No. 62/250,290, filed on Nov. 3, 2015.

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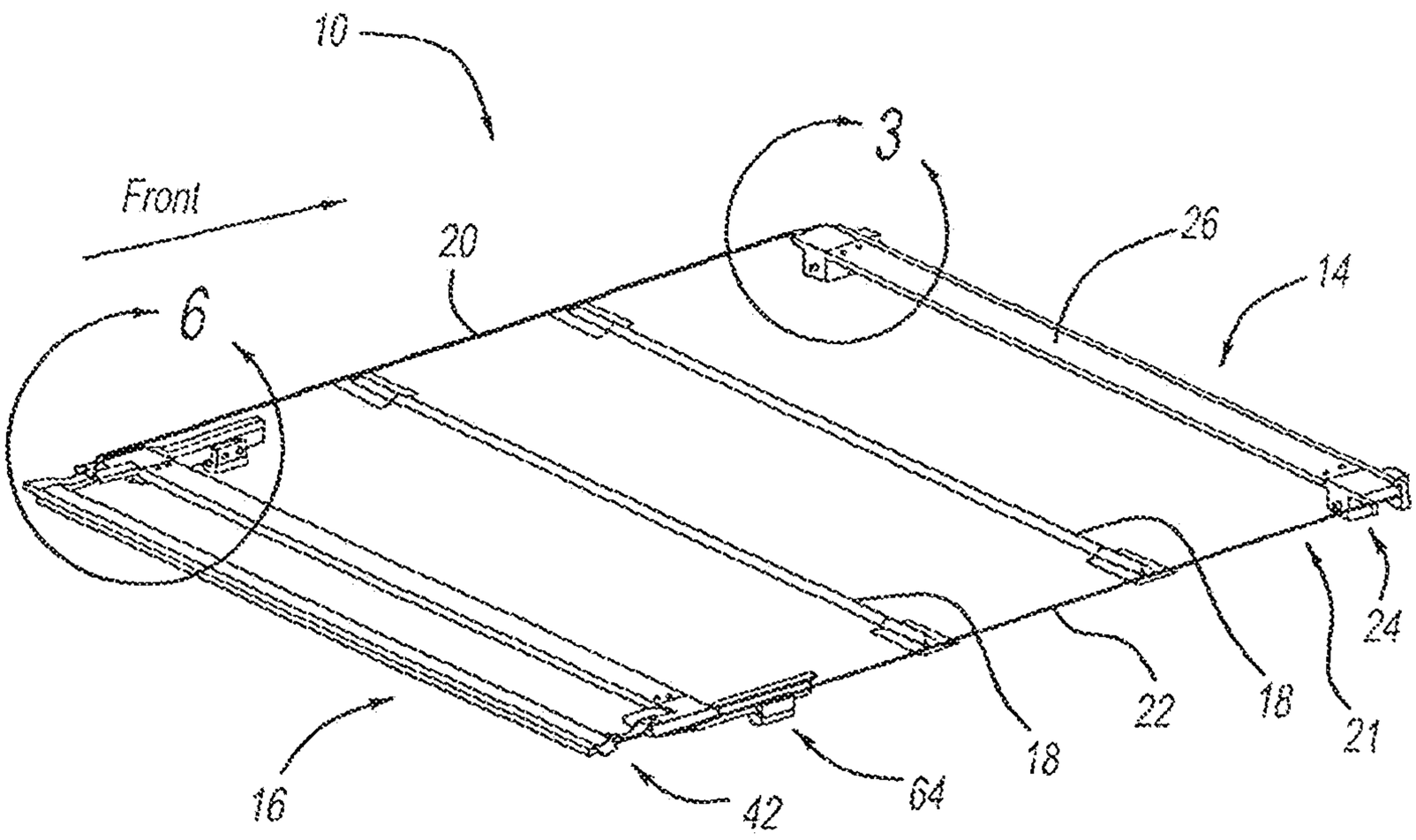
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FIG - 1

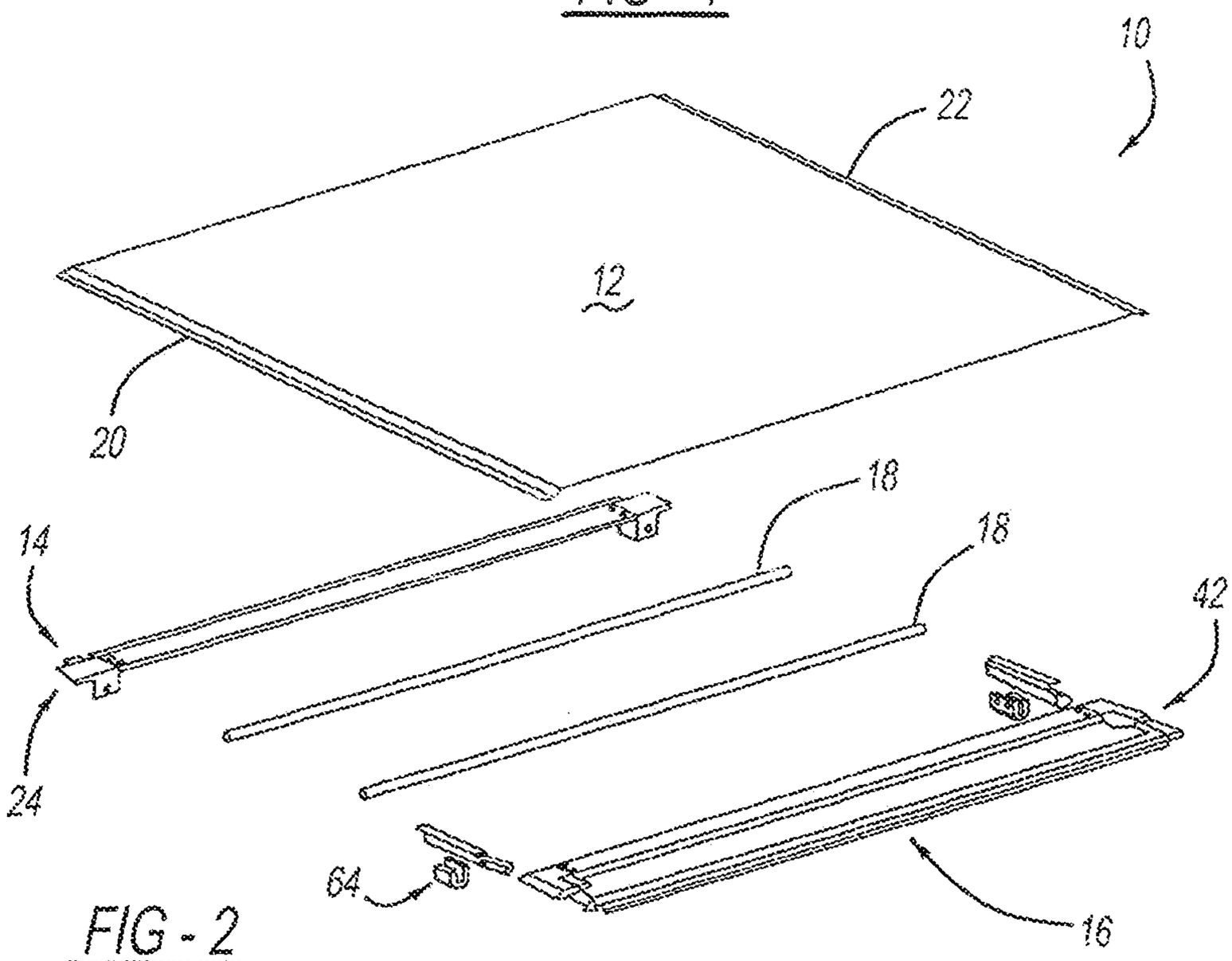
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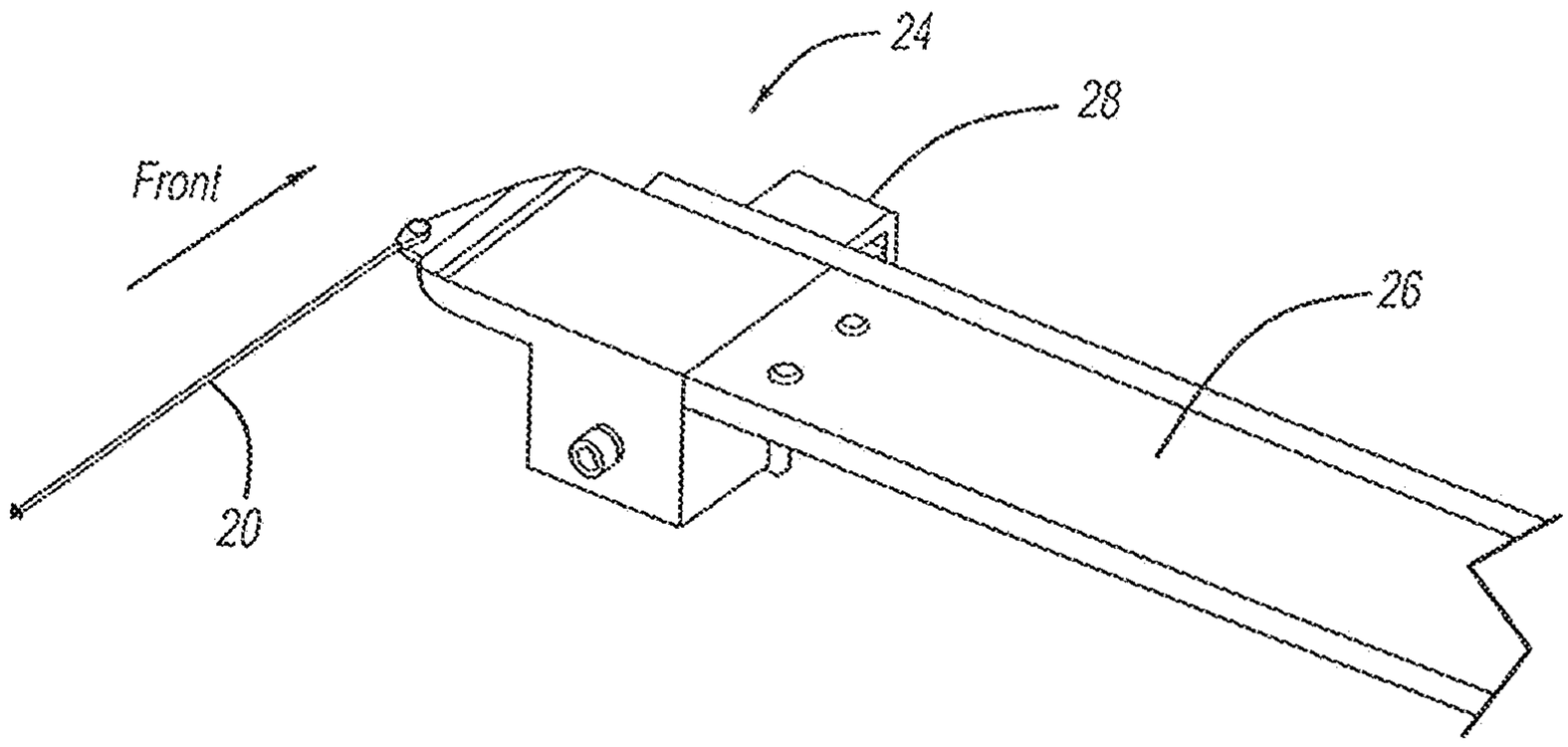
FIG - 2



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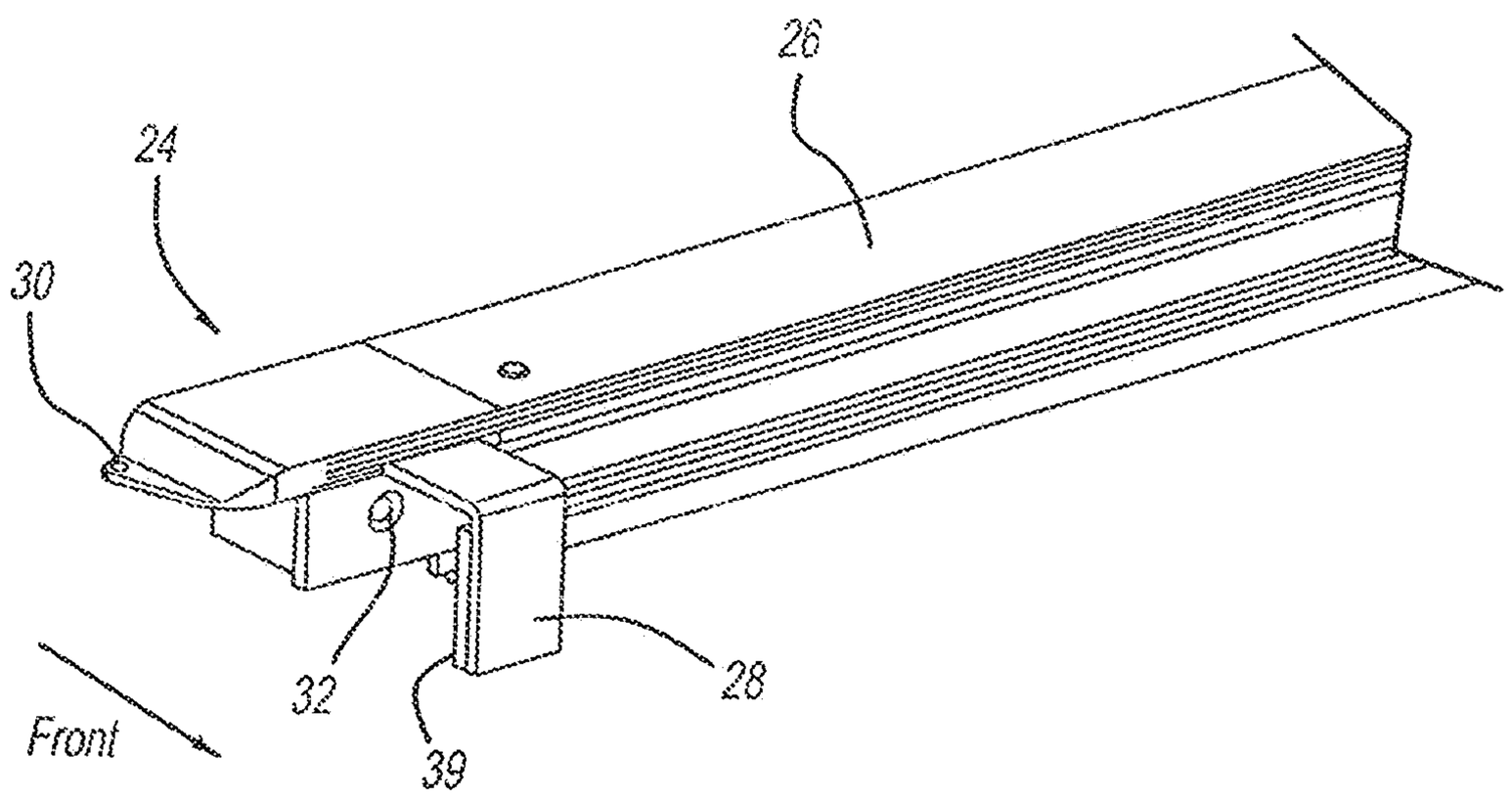

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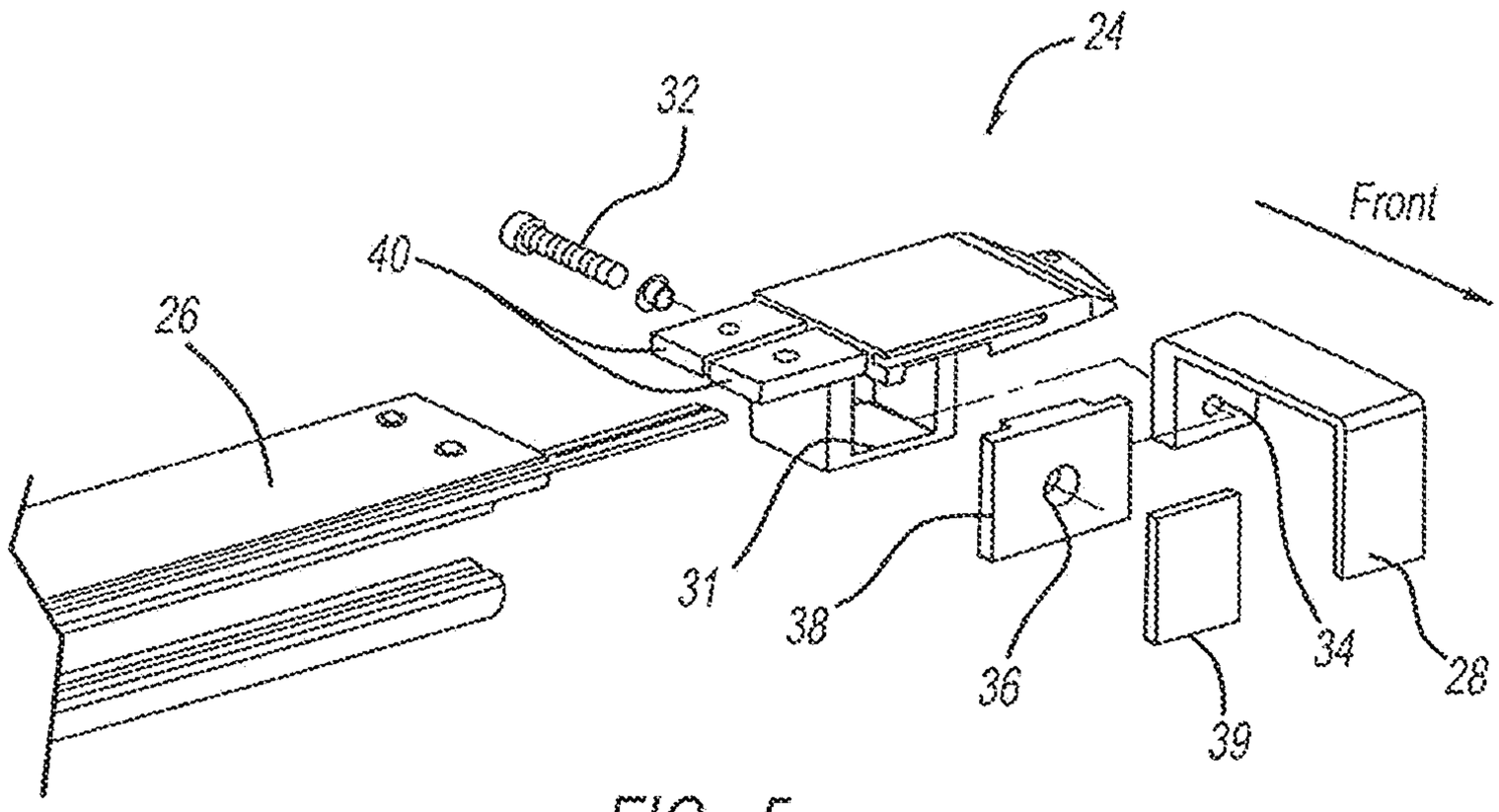
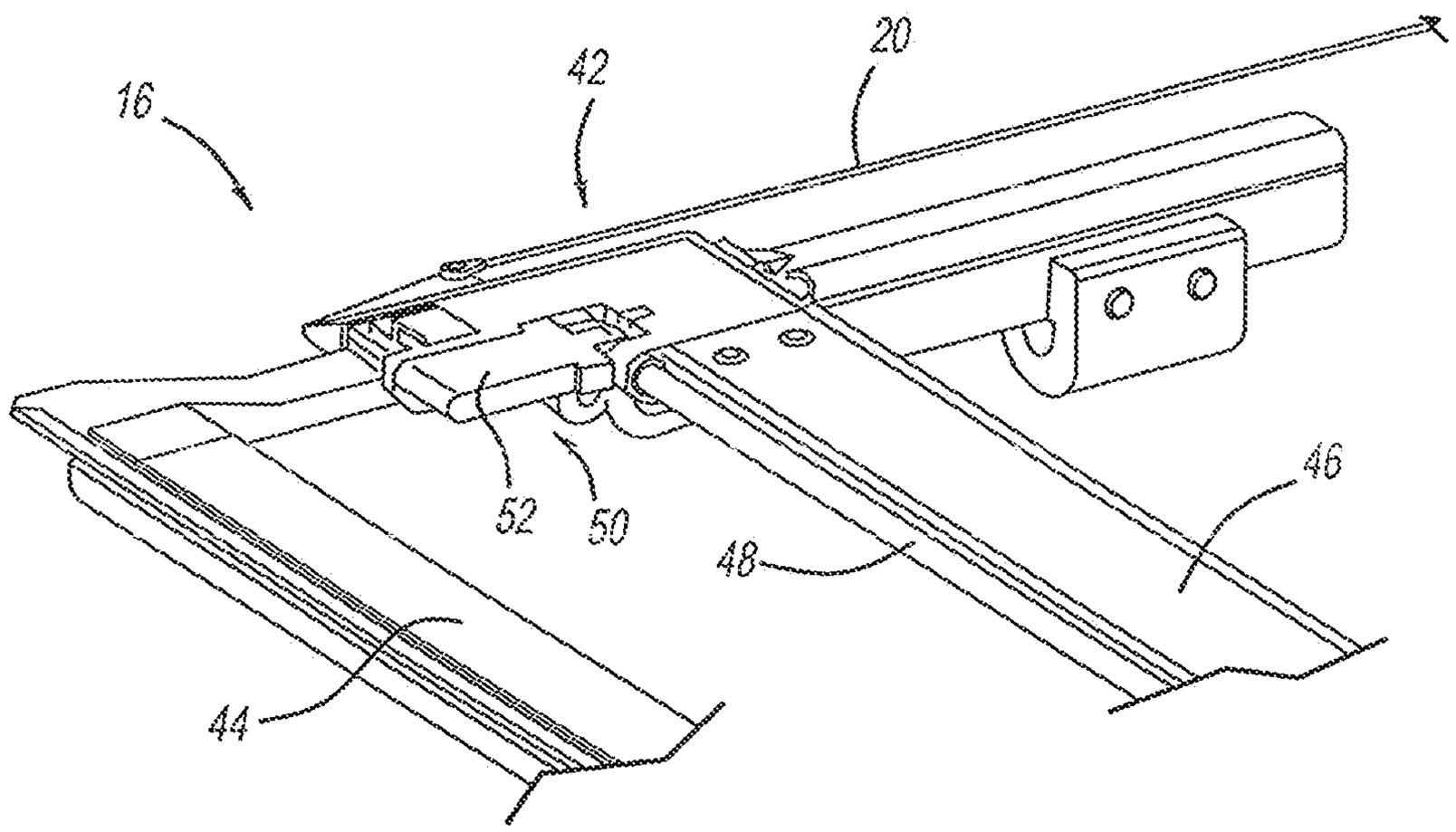


FIG - 5



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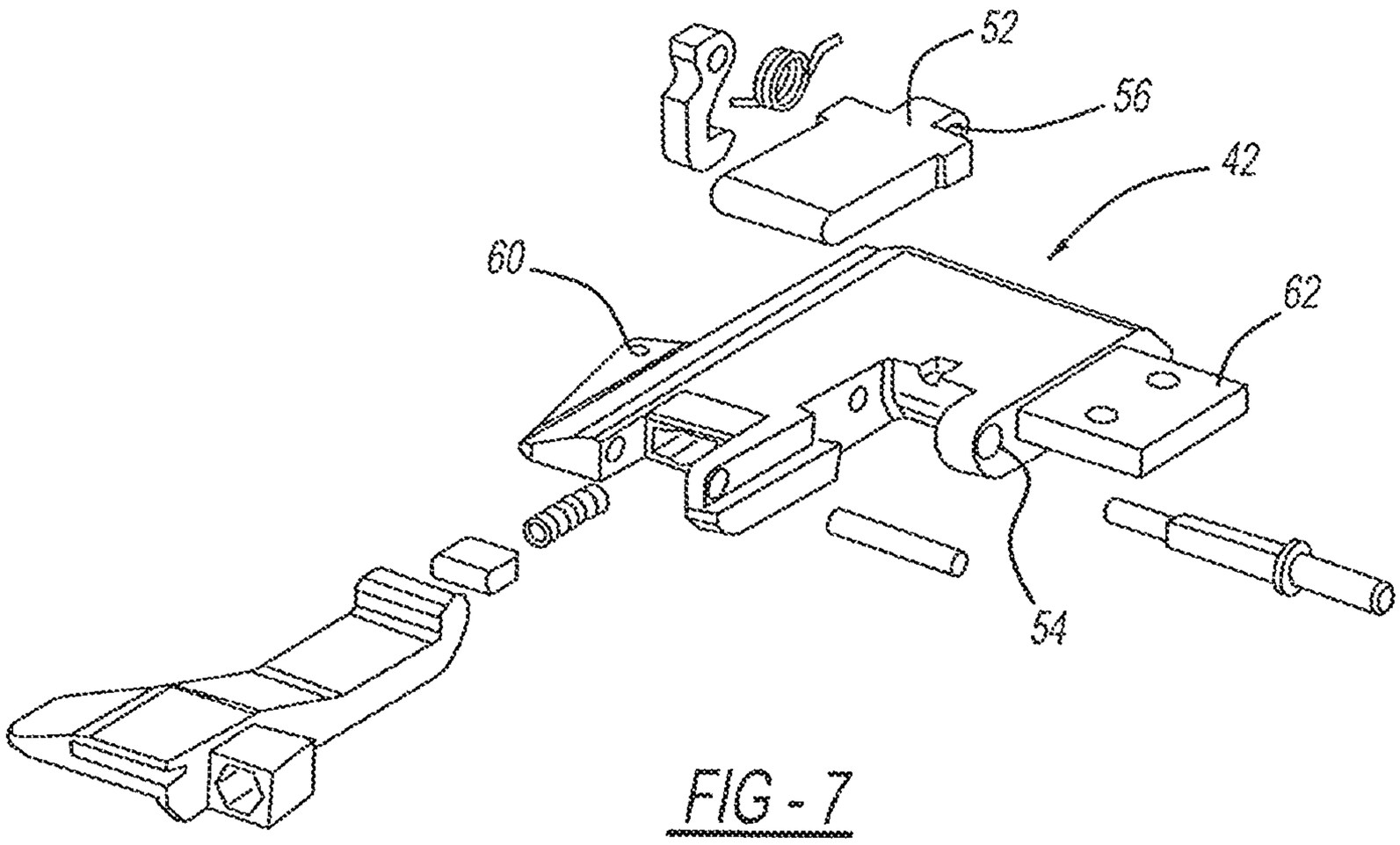

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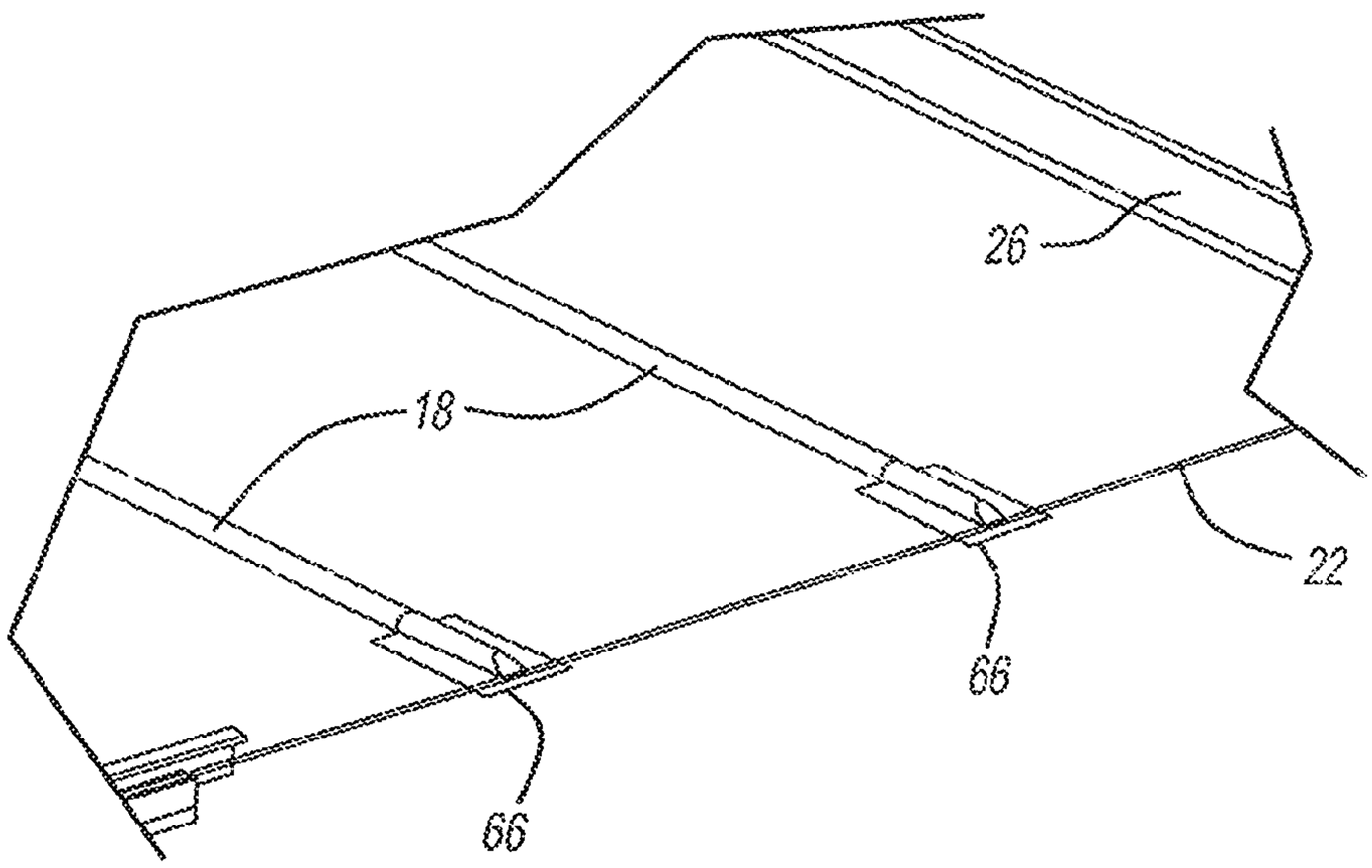

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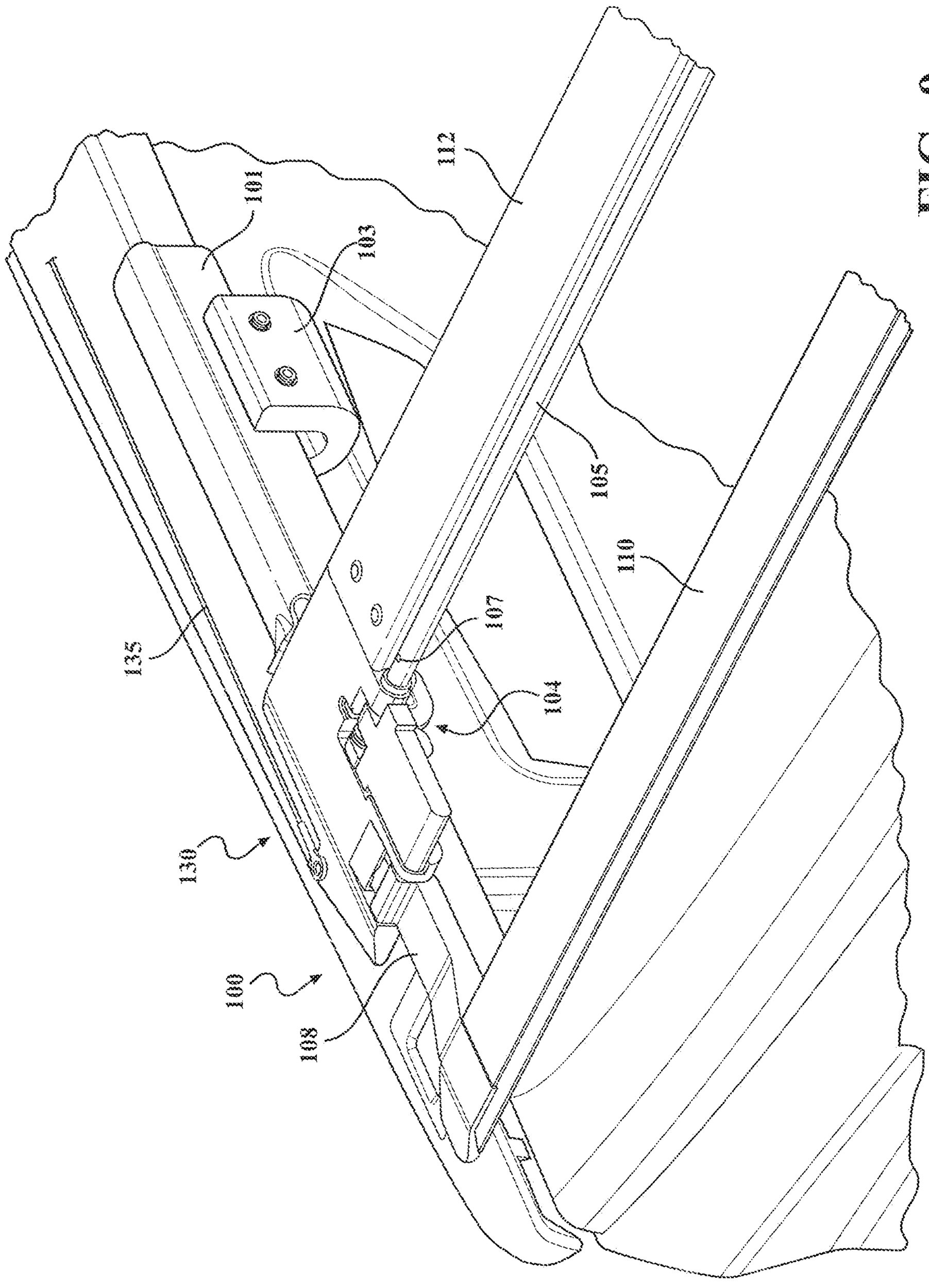


FIG. 9

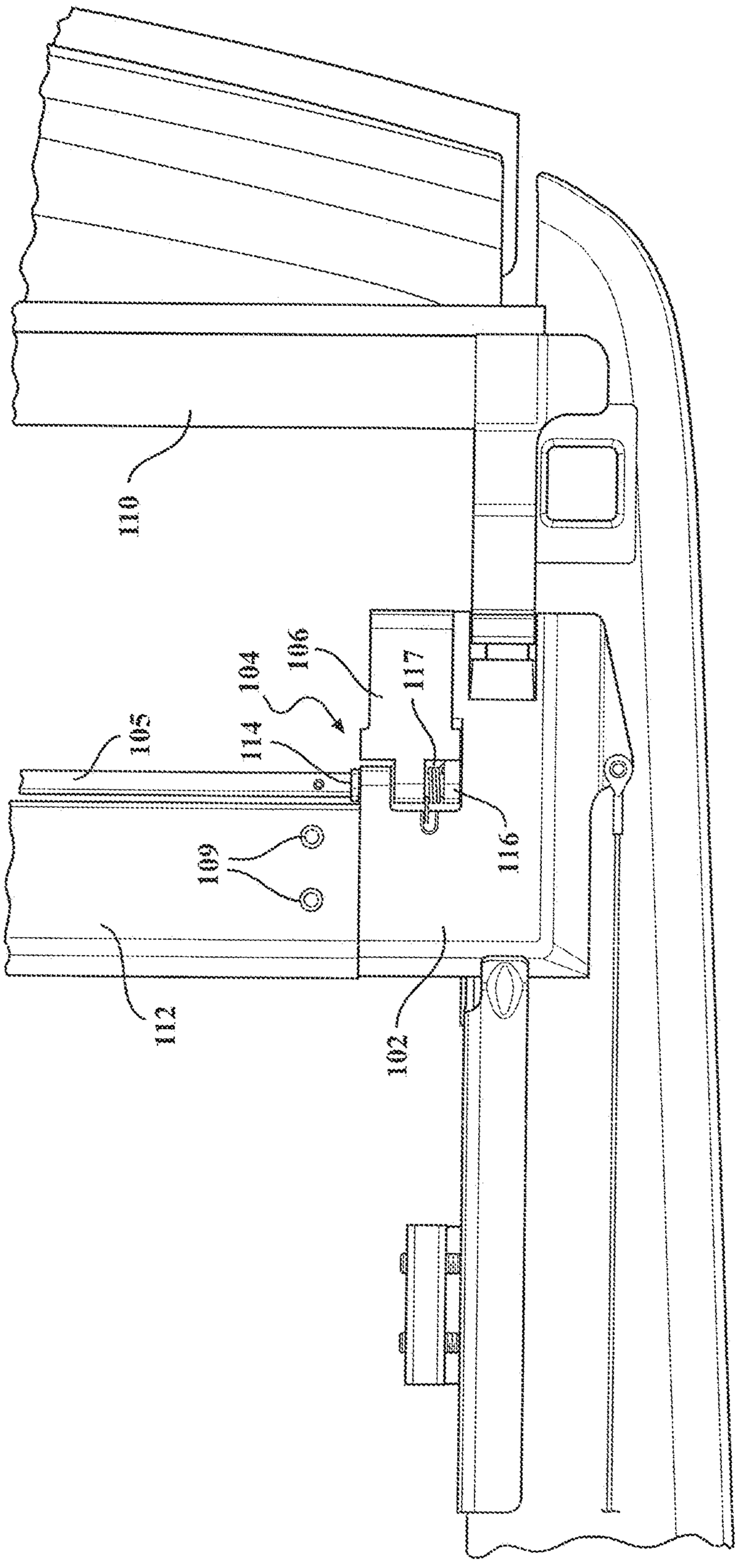
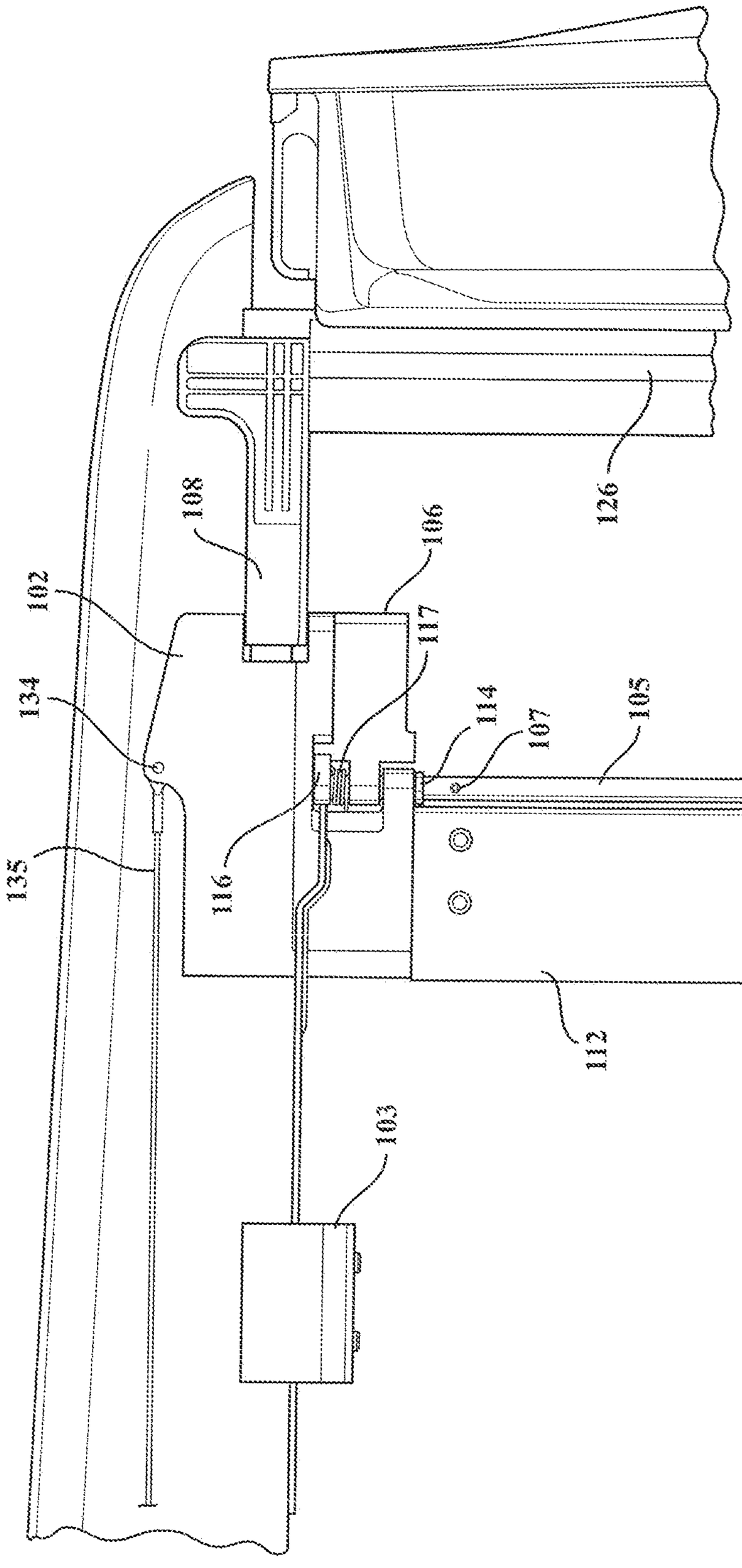


FIG. 1e



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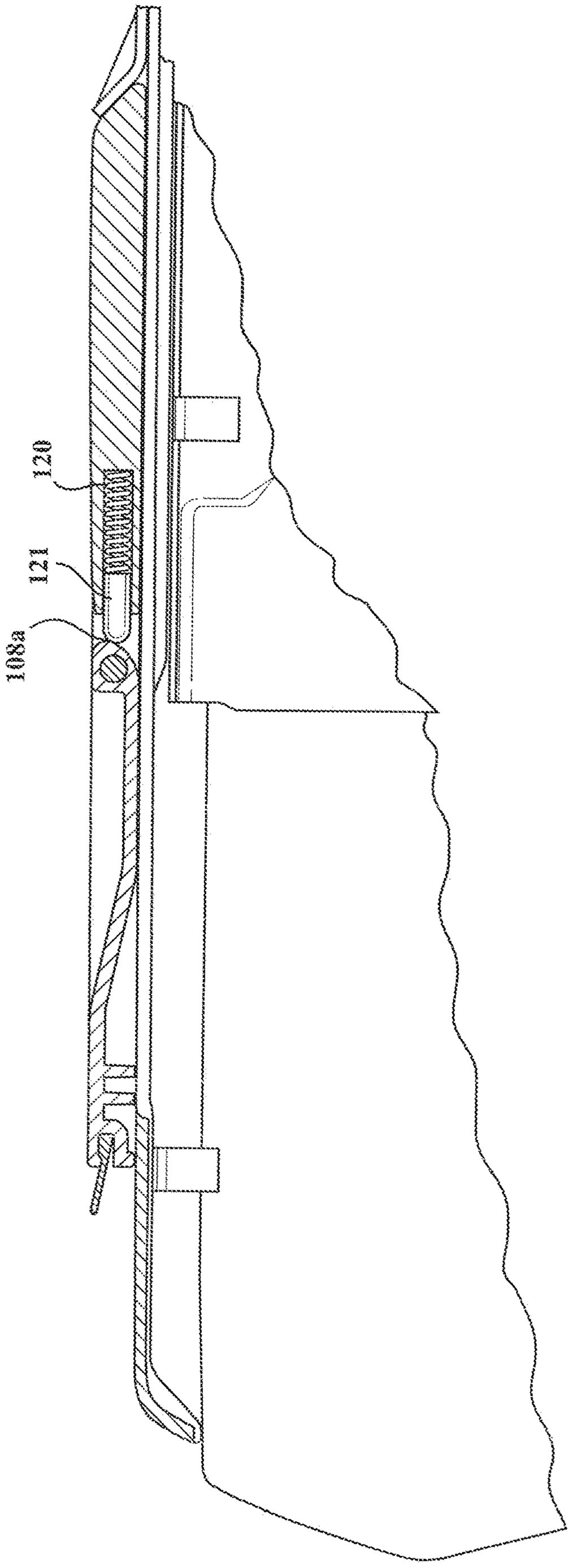

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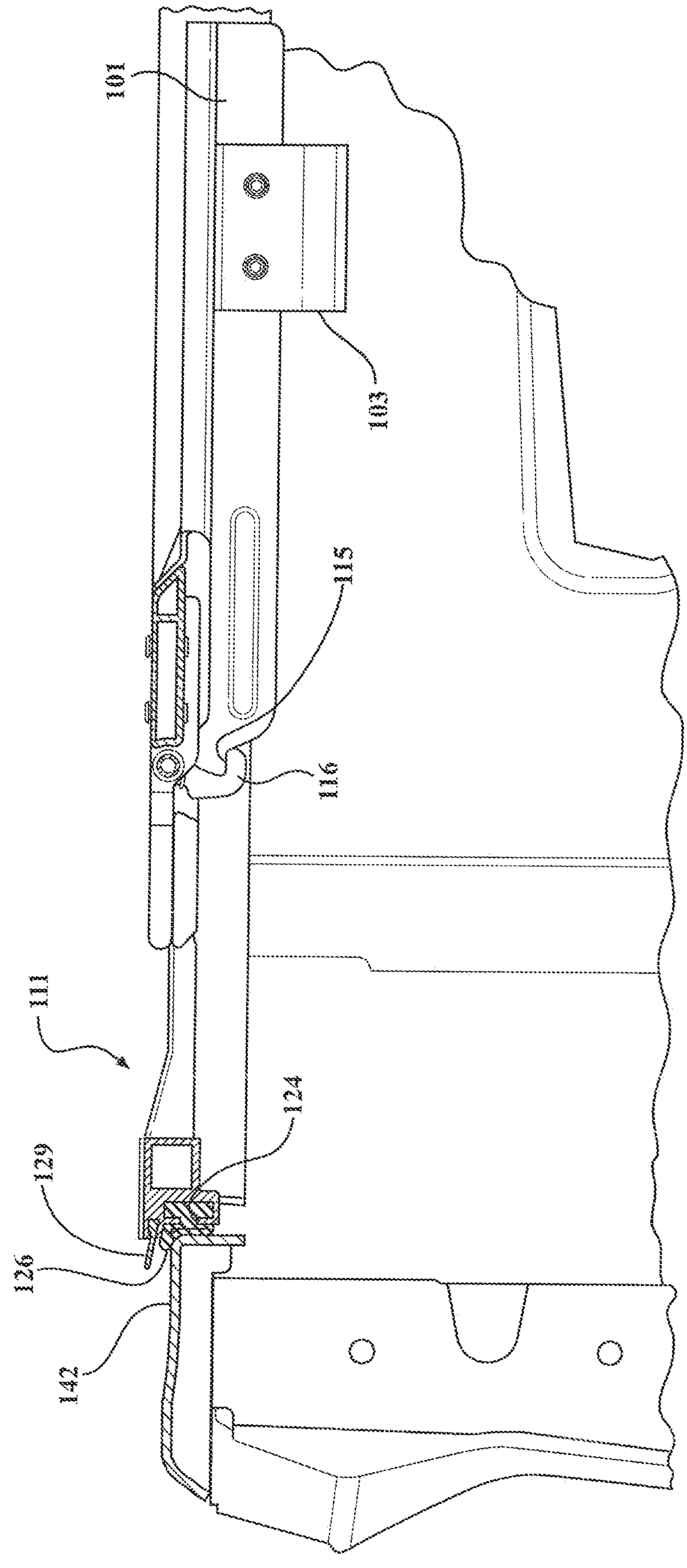

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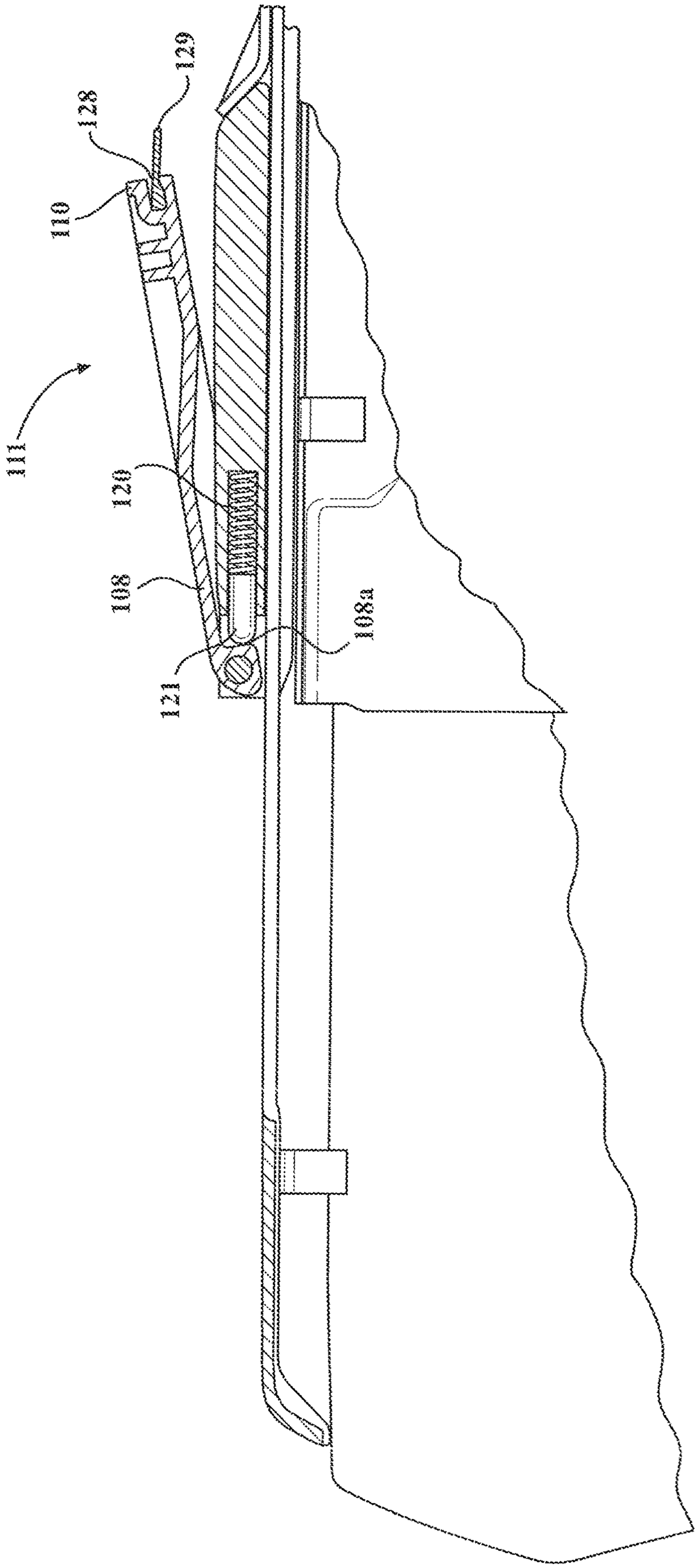

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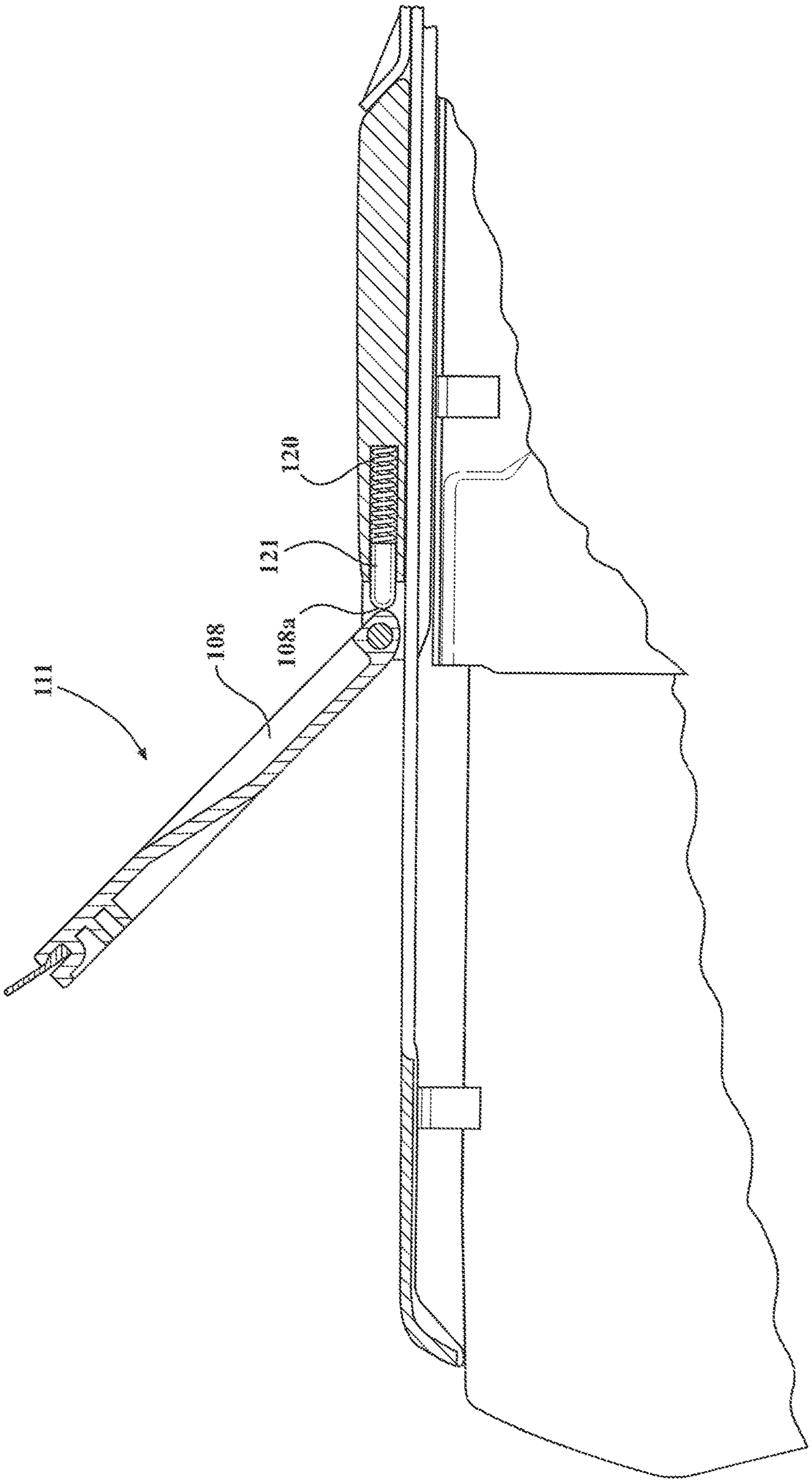

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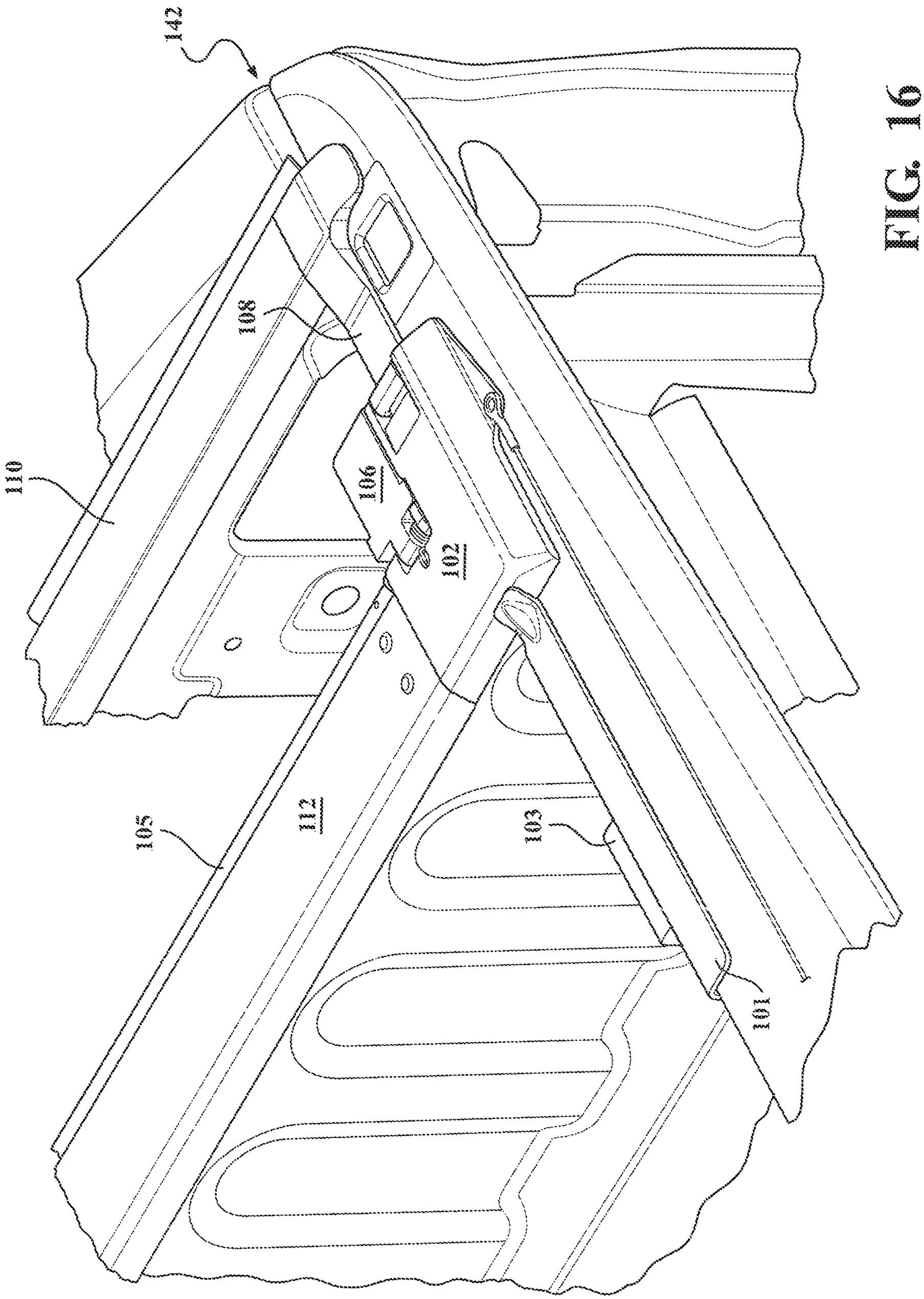

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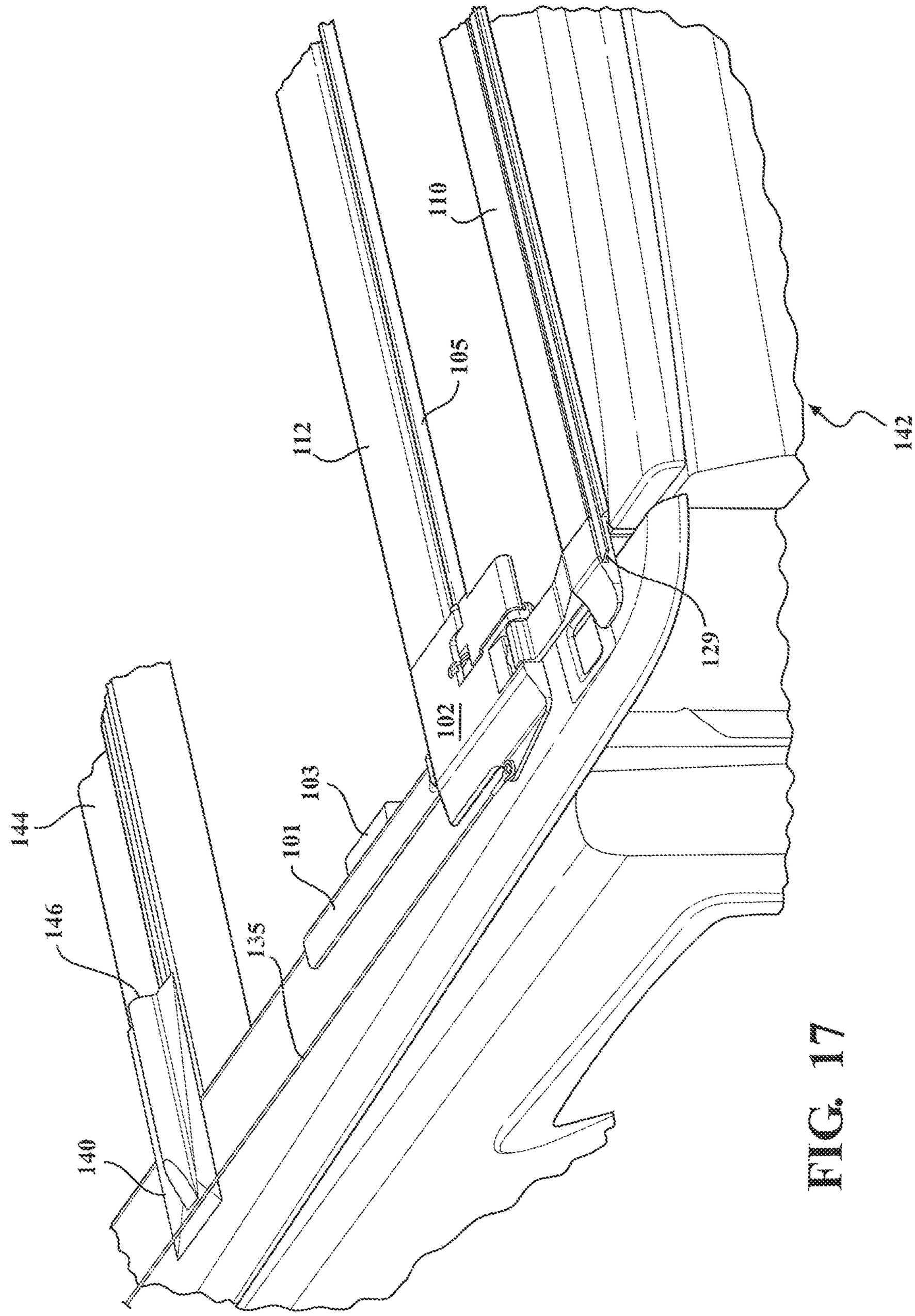

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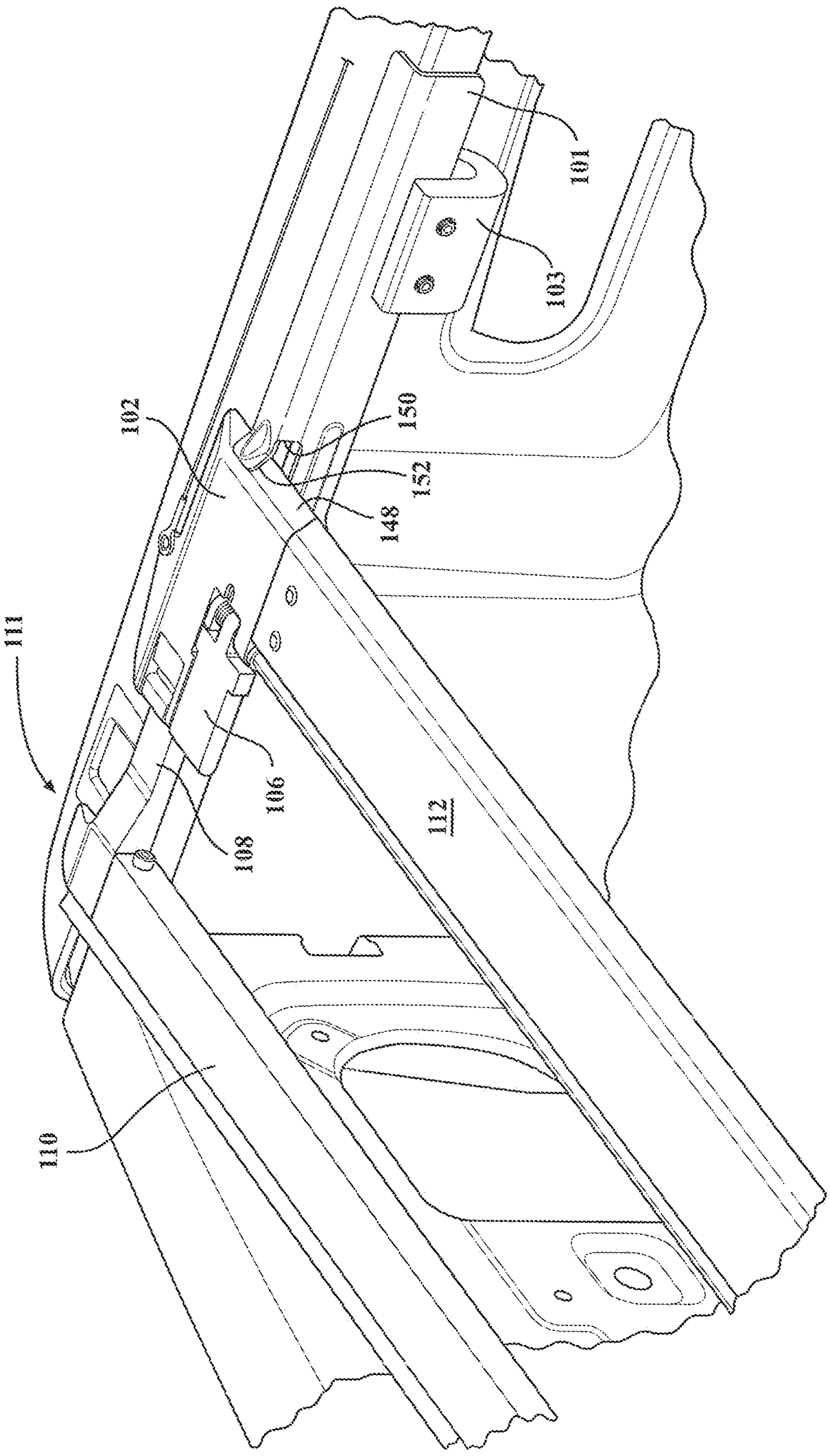

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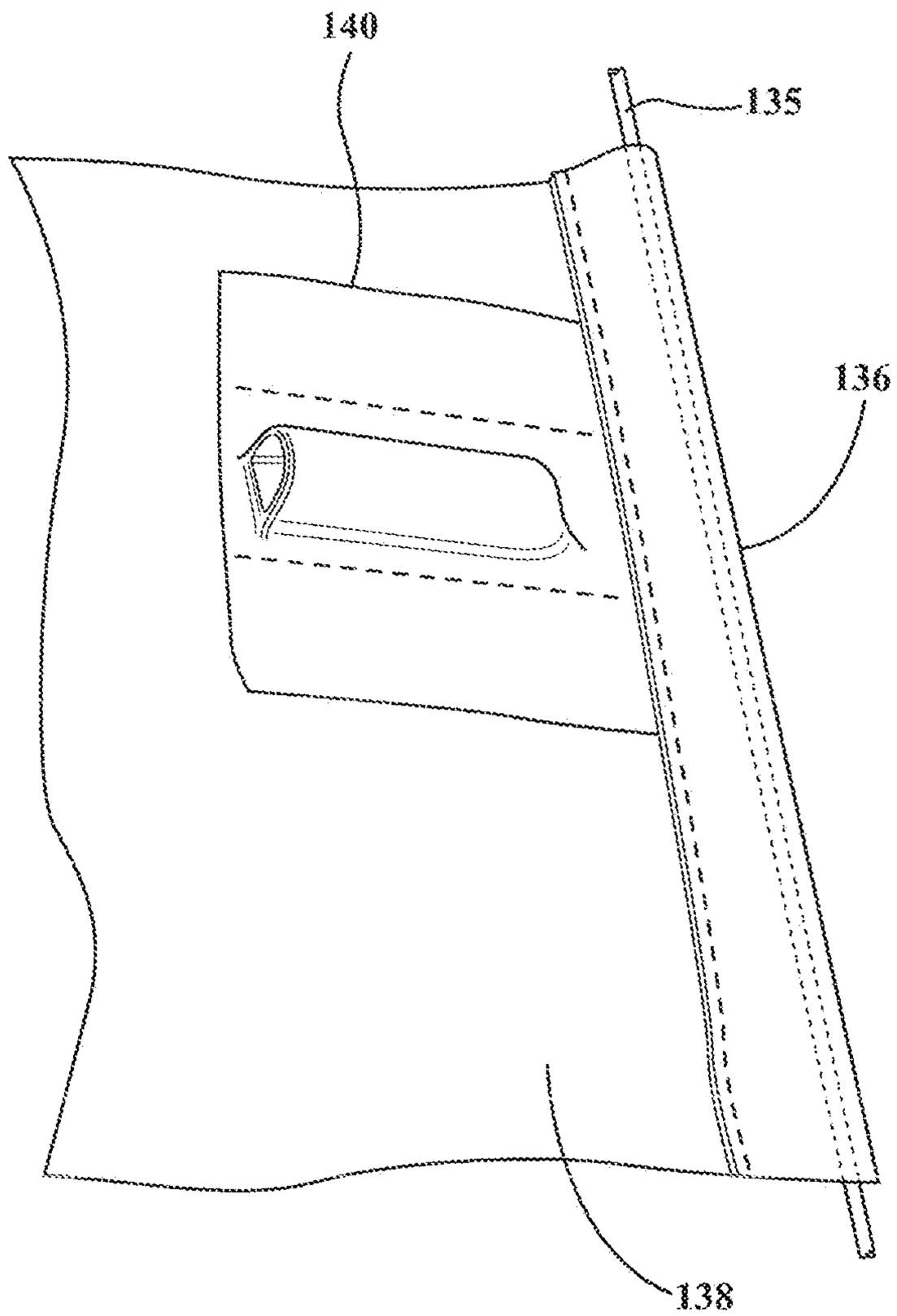

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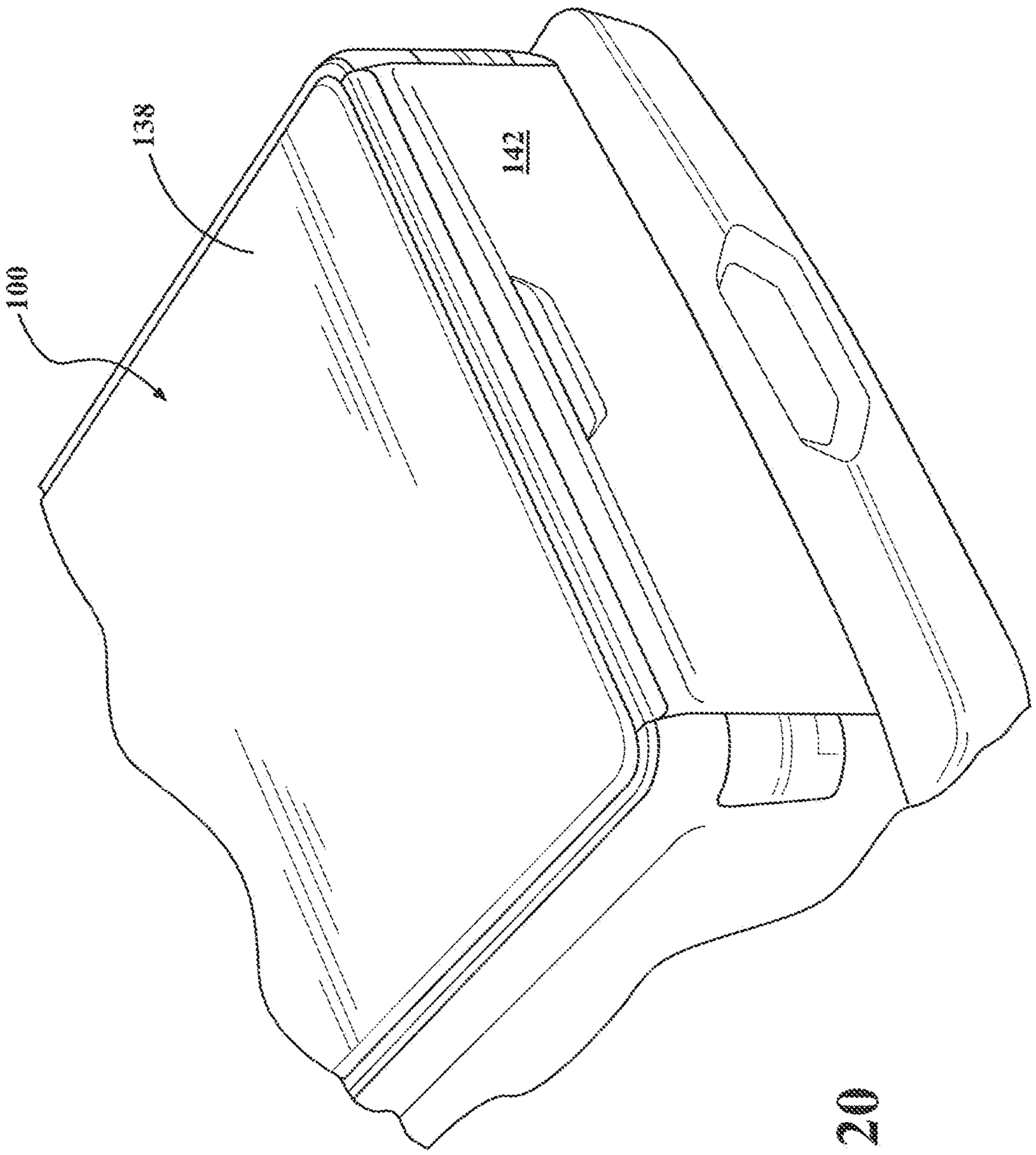

FIG. 2C

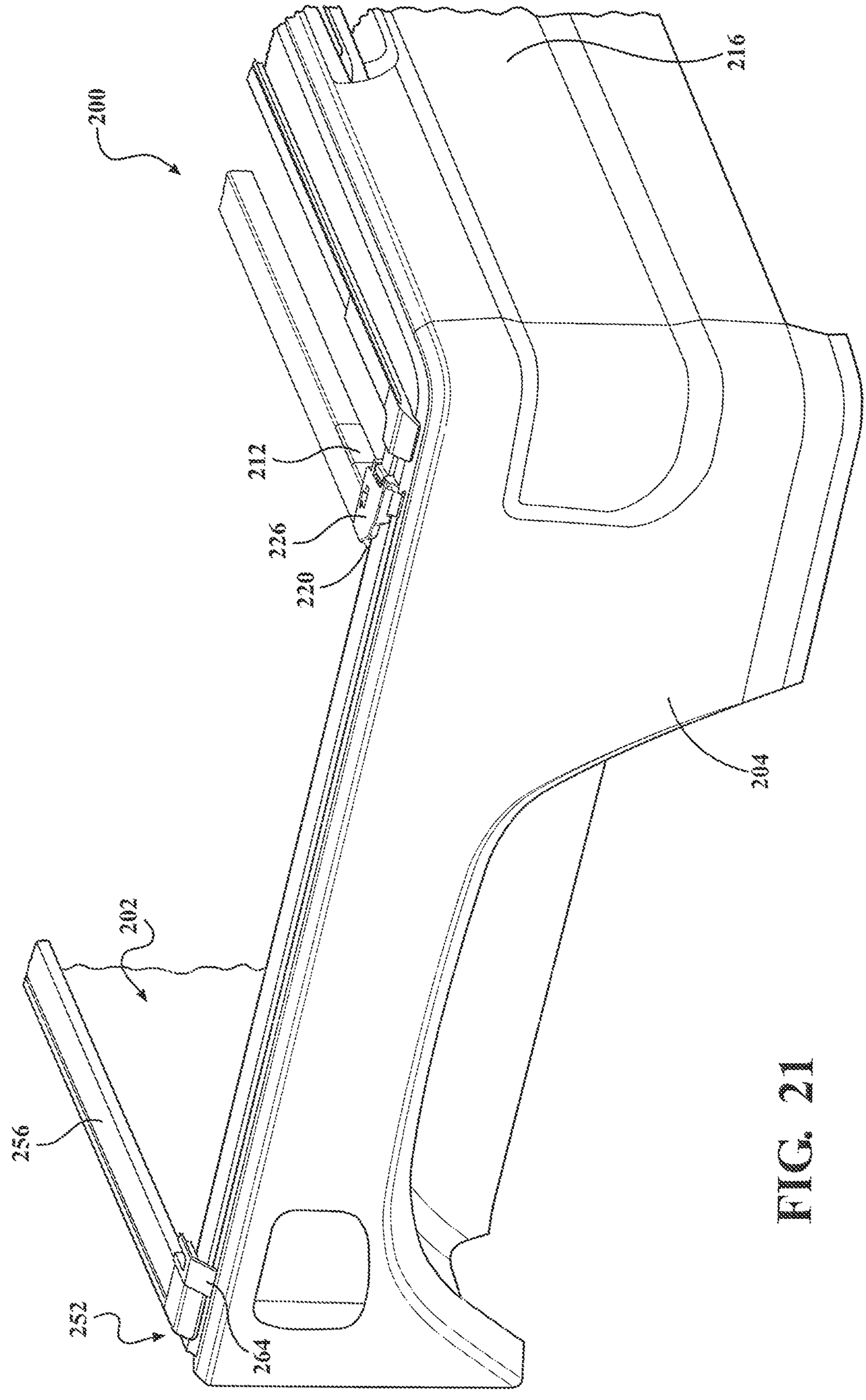

FIG. 21

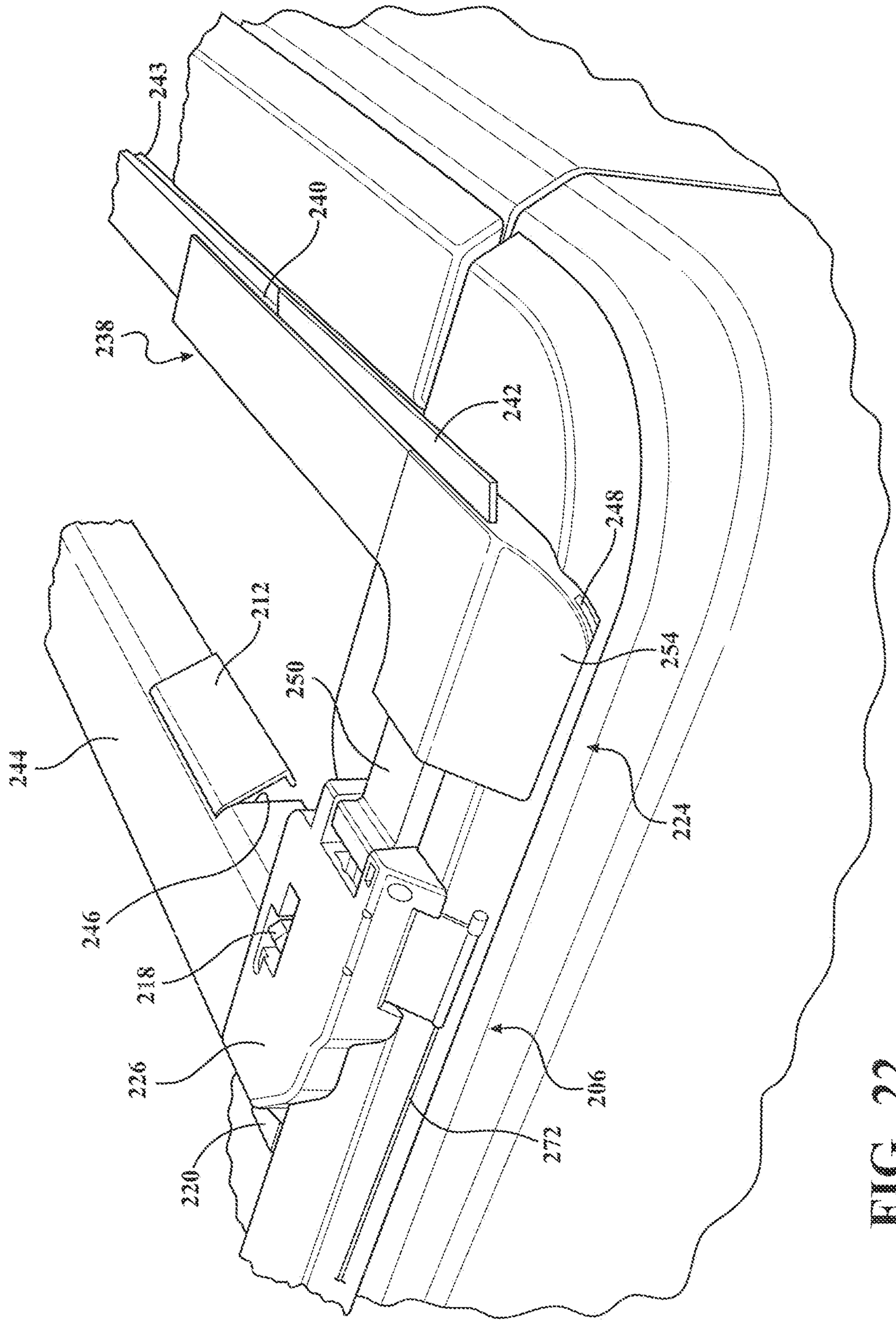

FIG. 22

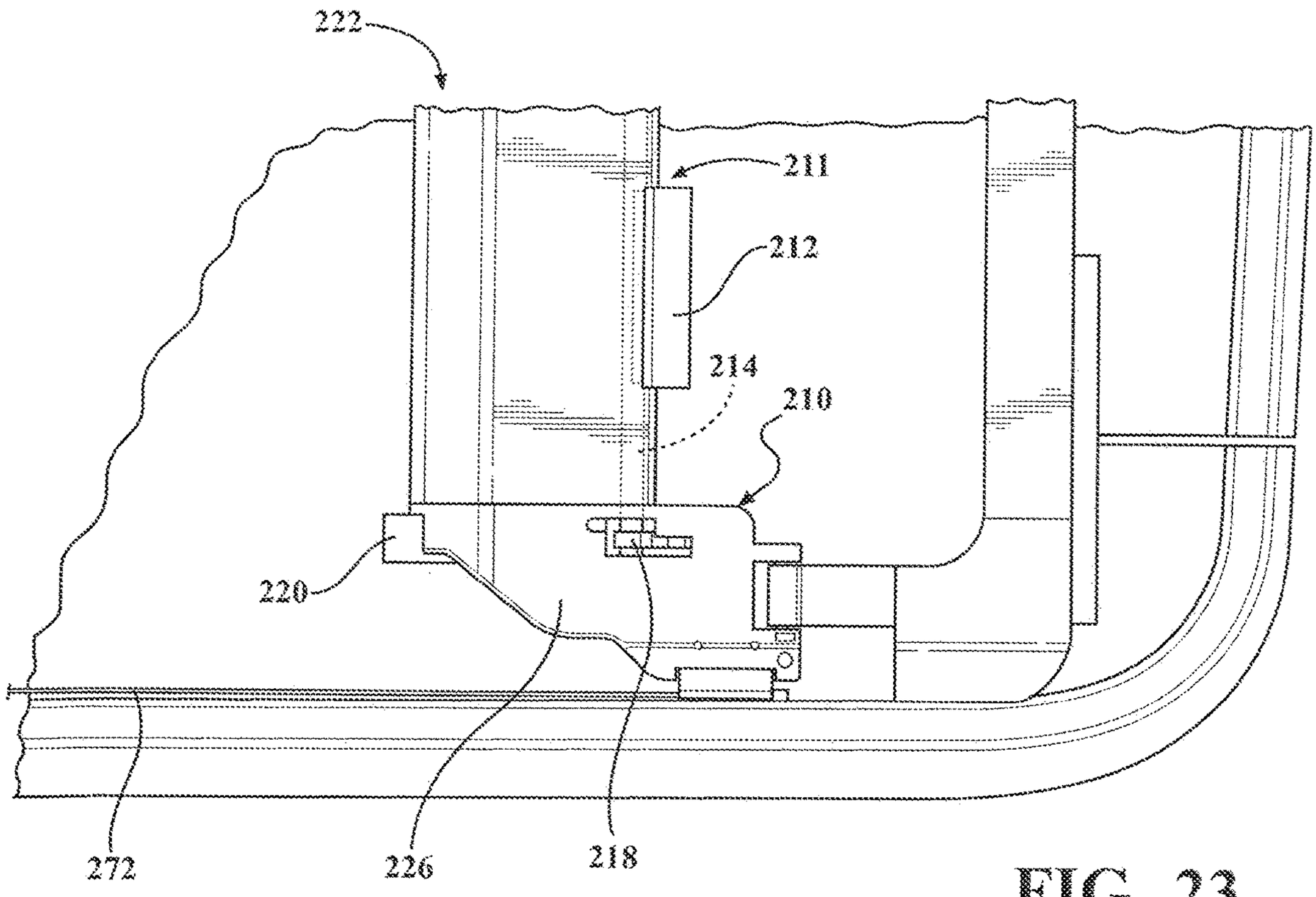
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FIG. 23

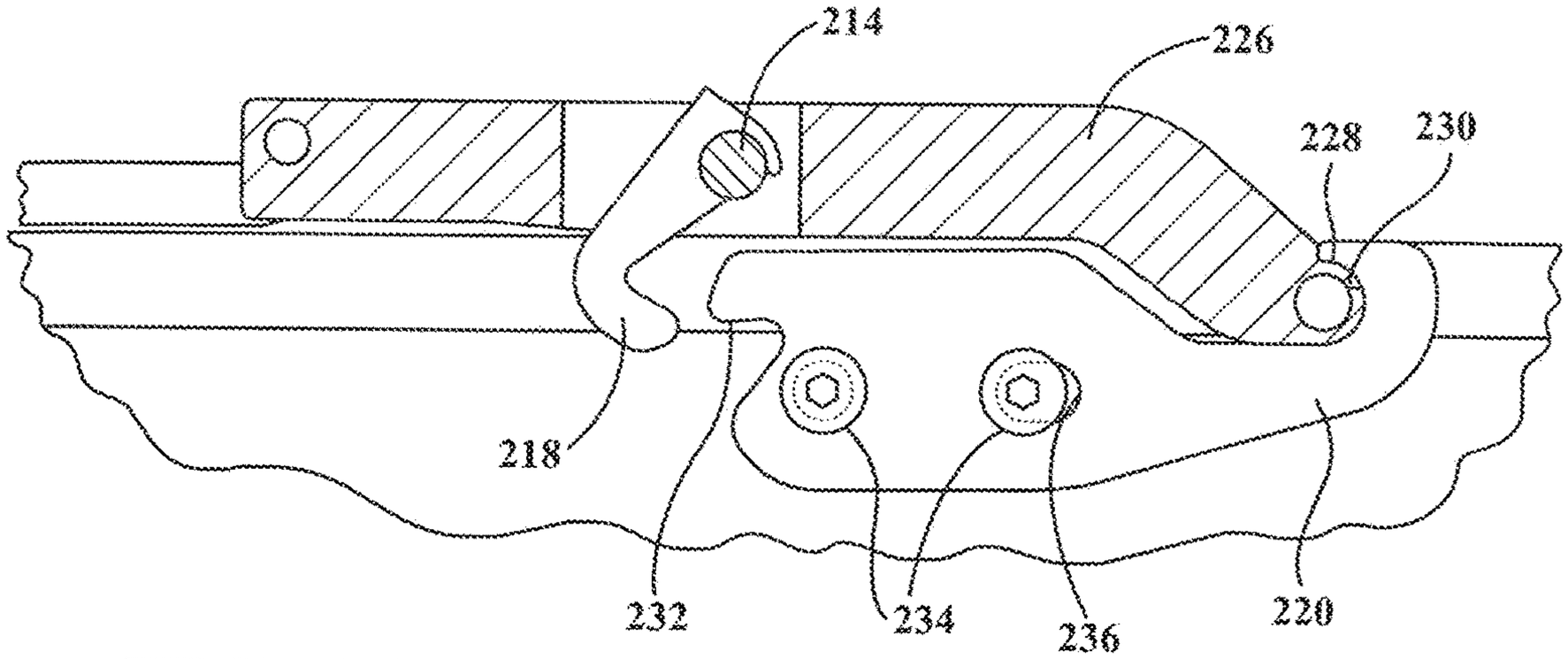
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FIG. 24

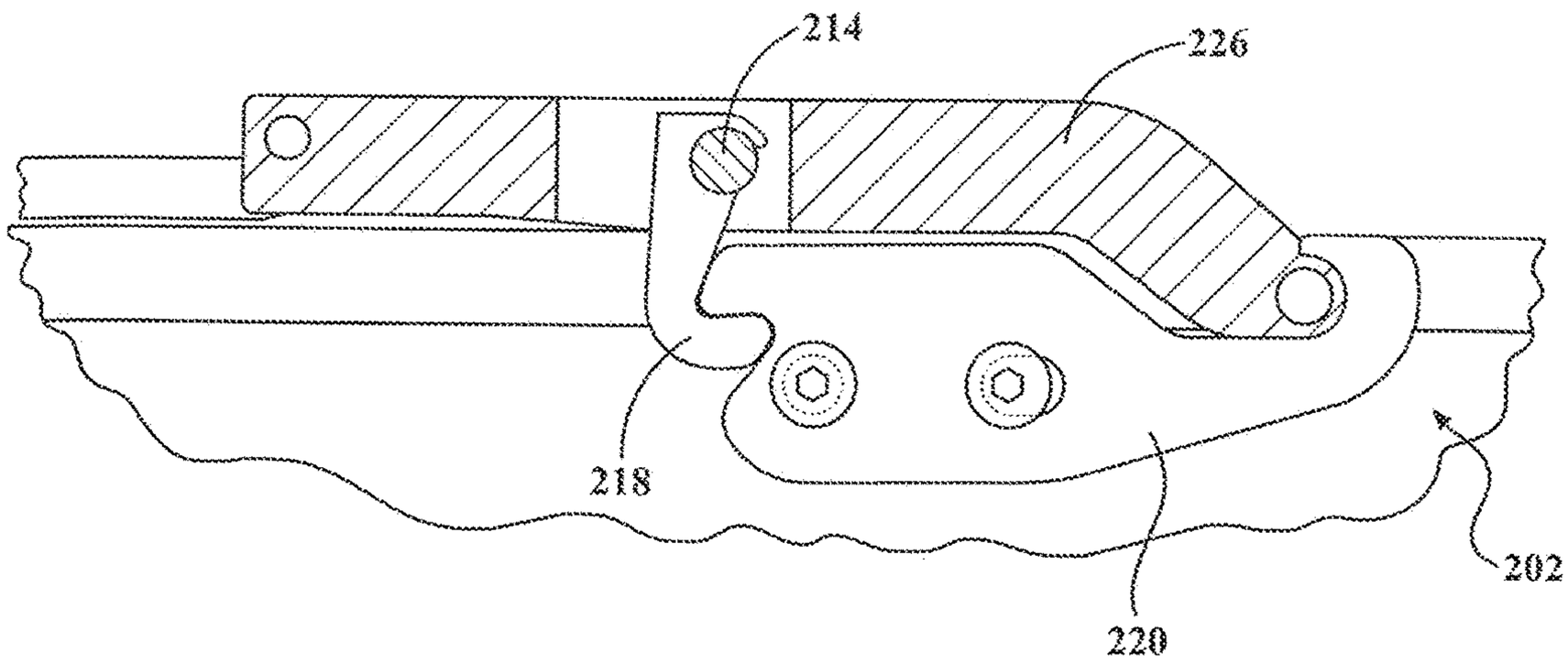


FIG. 25

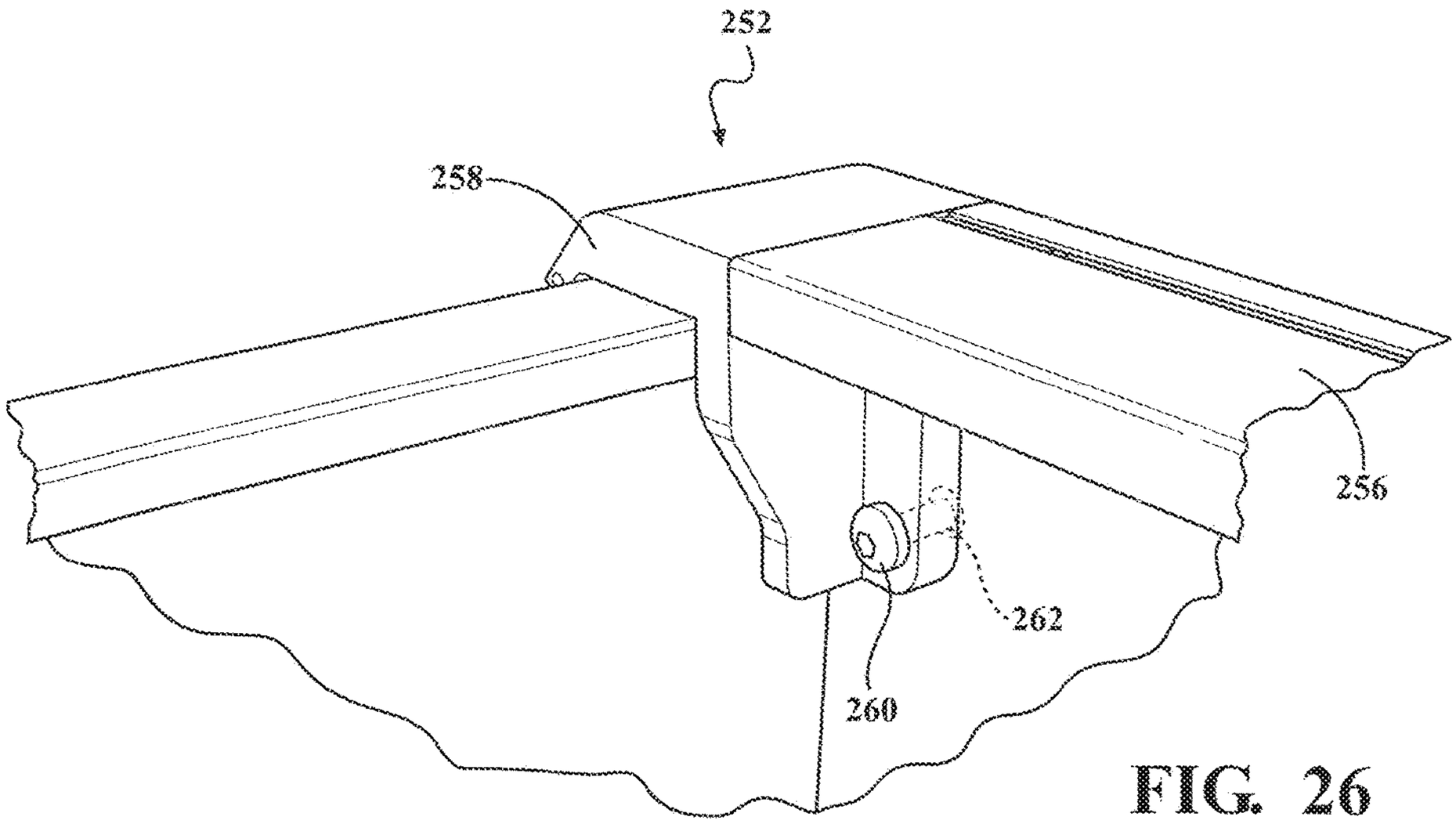


FIG. 26

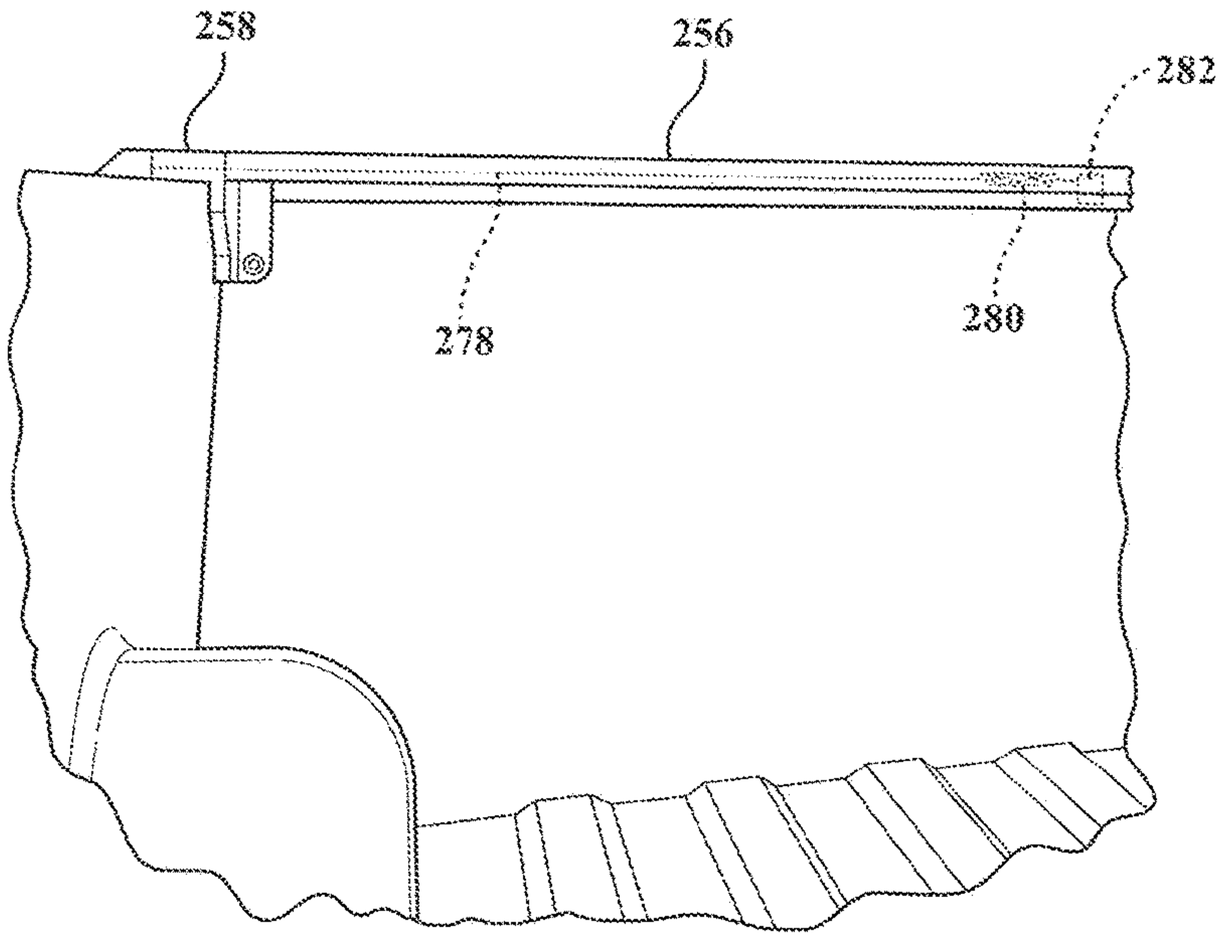


FIG. 27

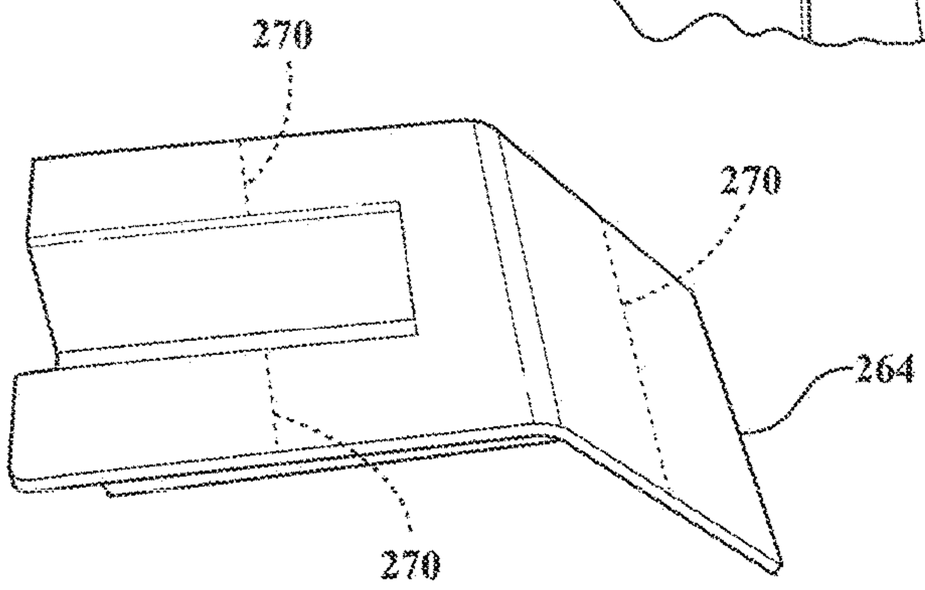


FIG. 28A

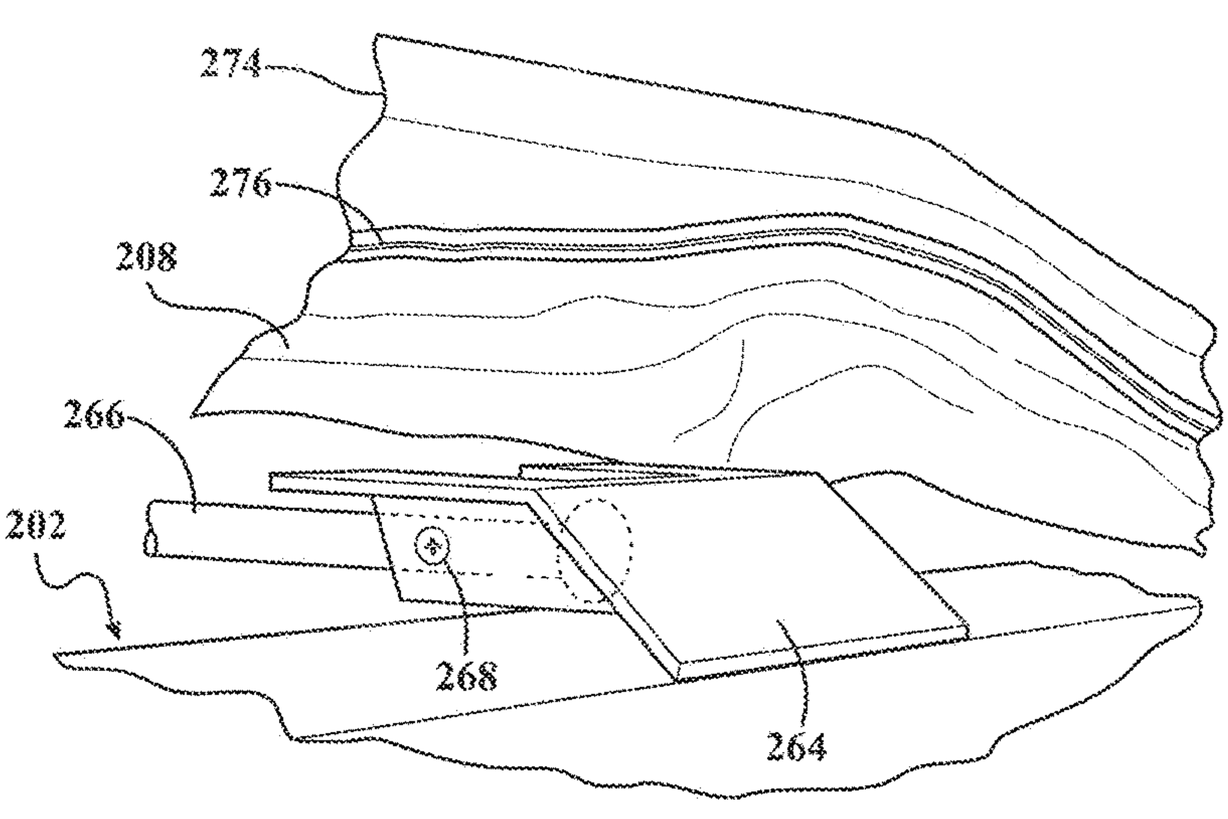


FIG. 28B

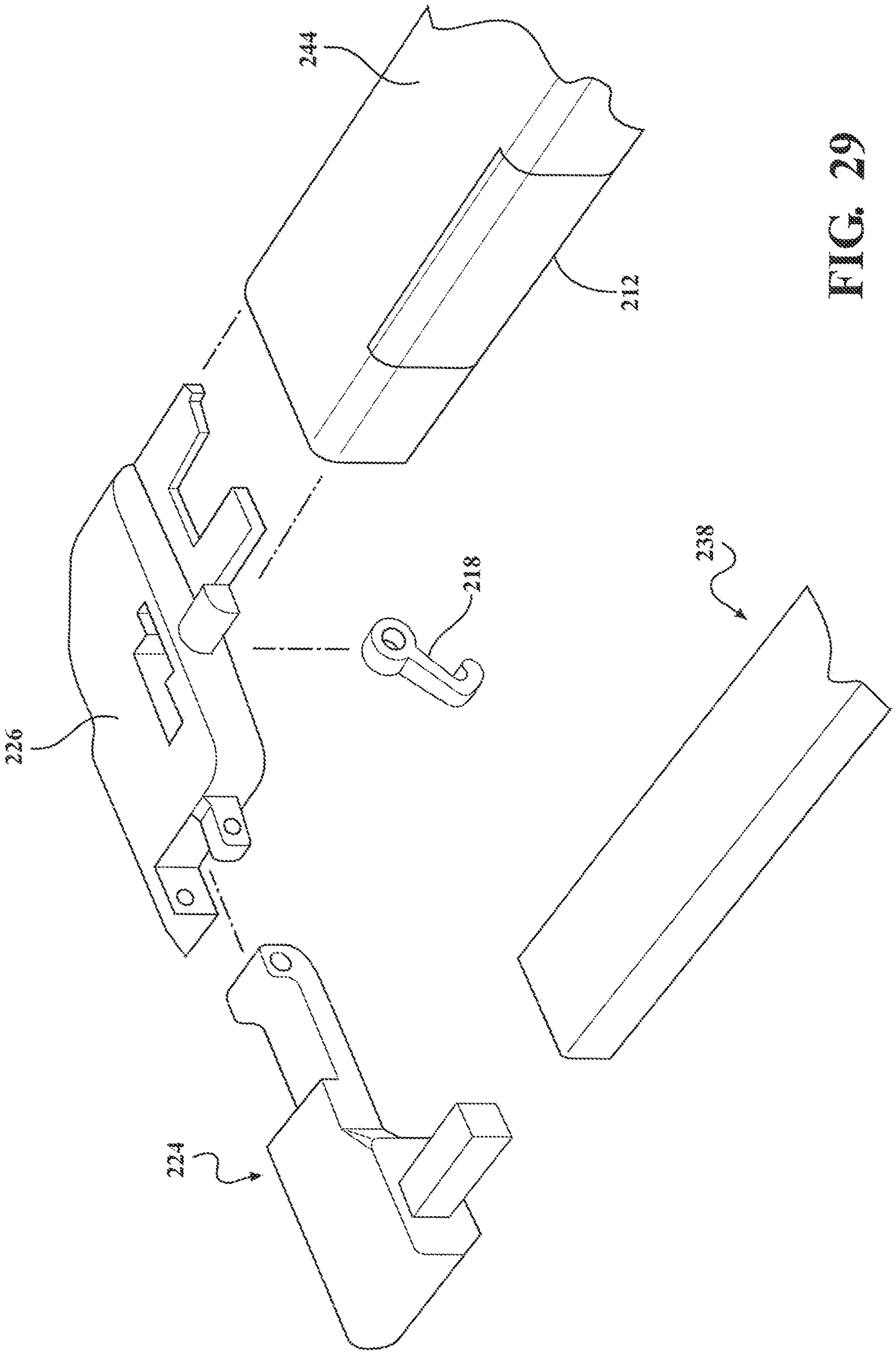
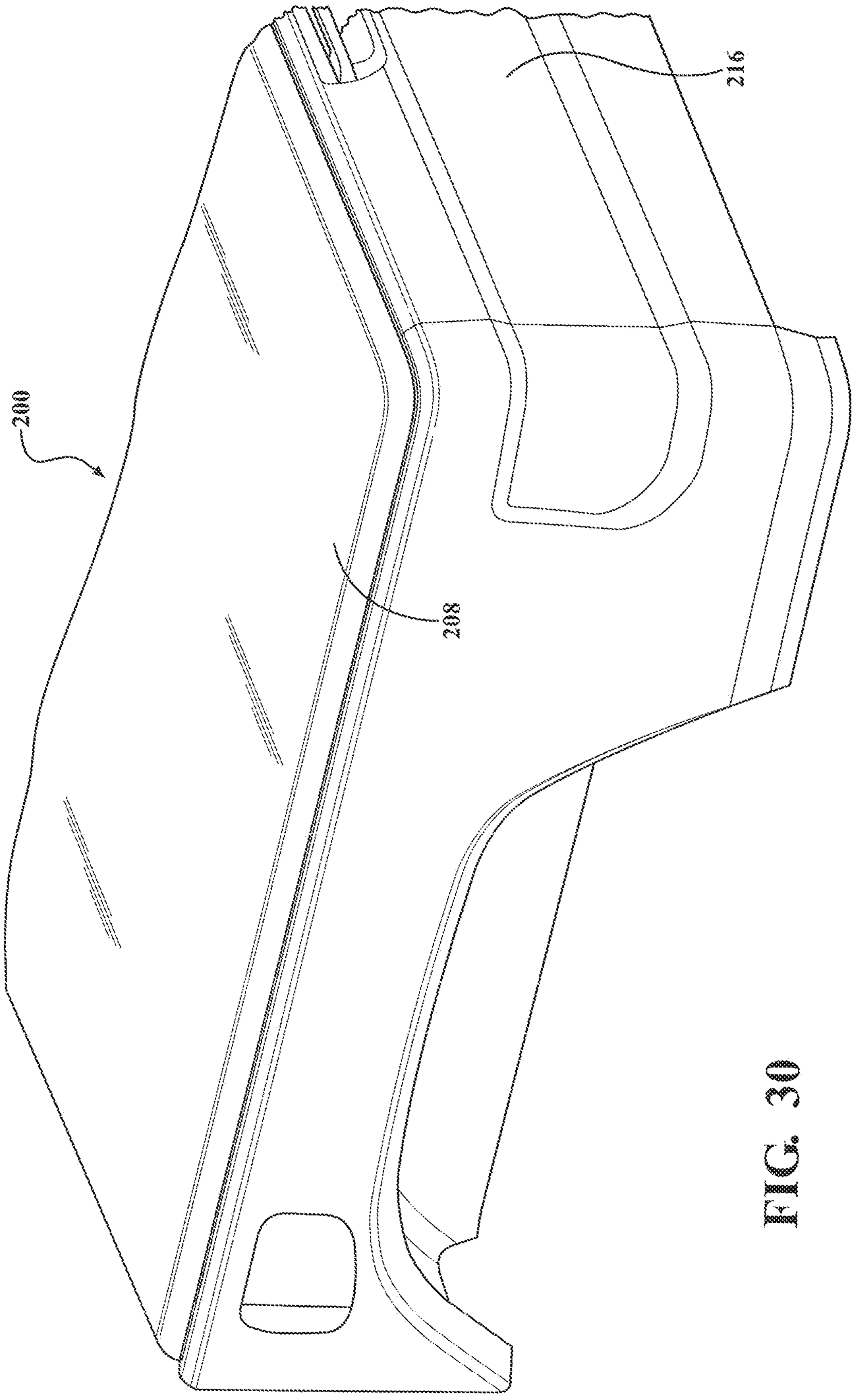


FIG. 29



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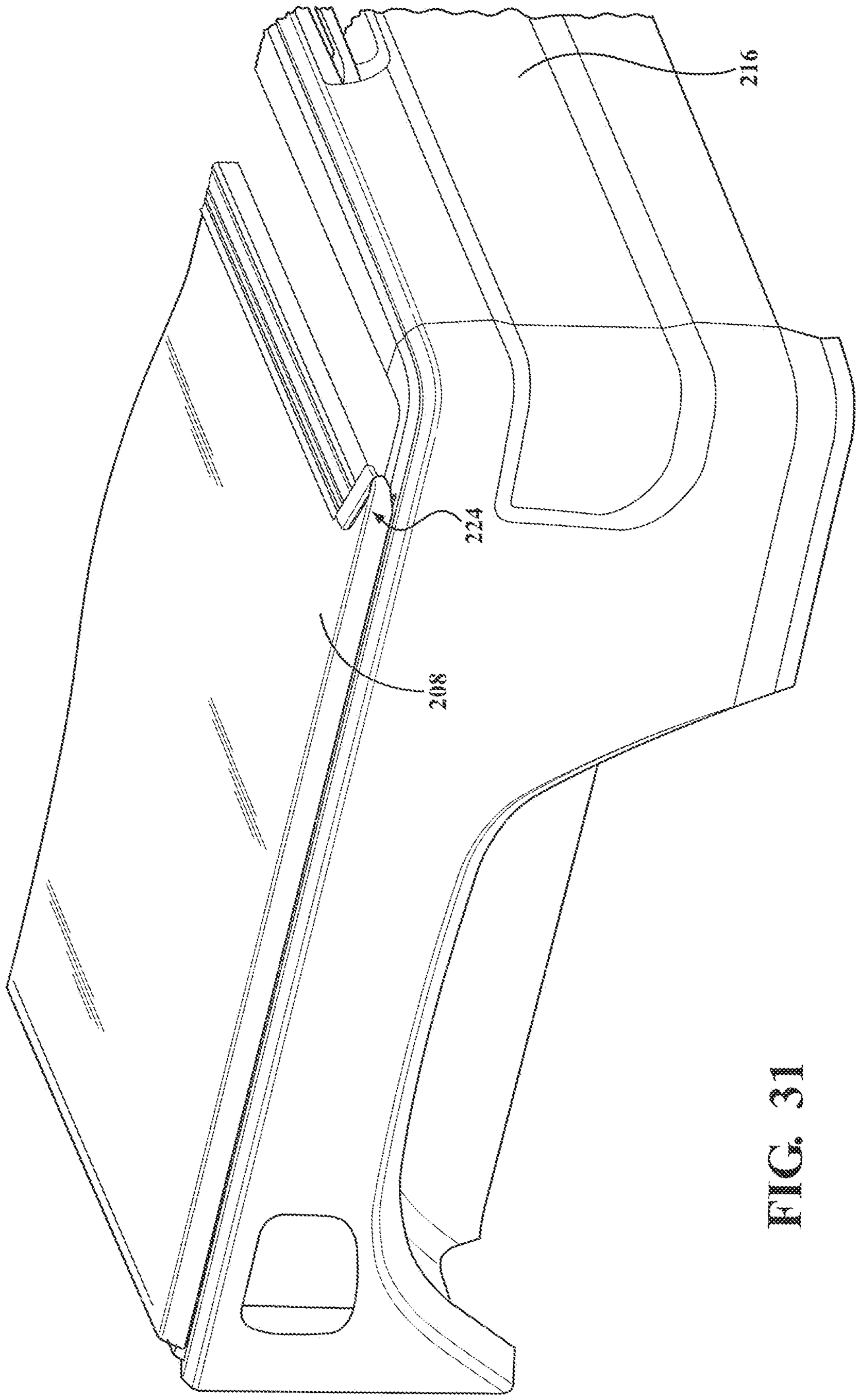

FIG. 31

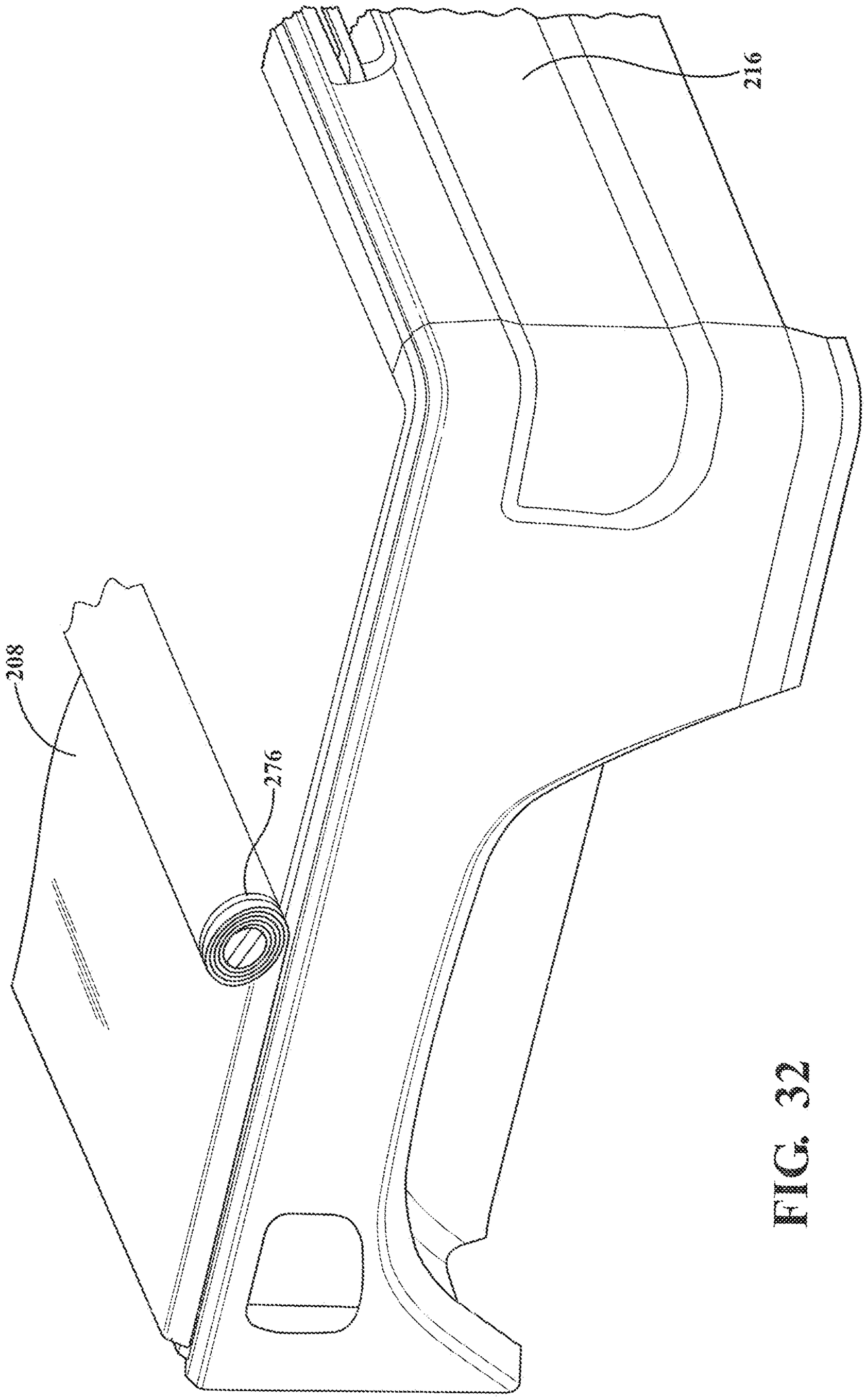

FIG. 32

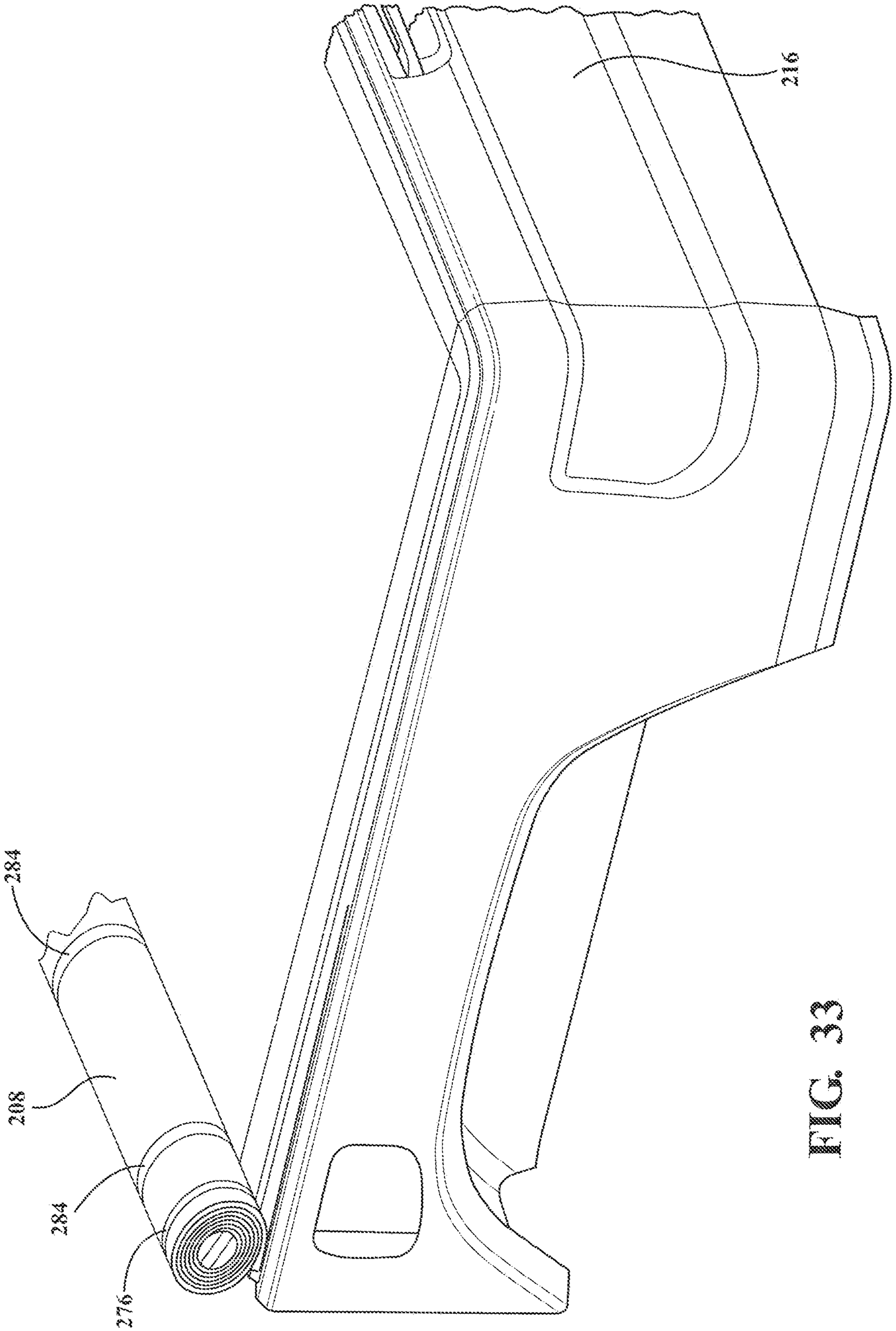

FIG. 33

TONNEAU COVER ACCESS PANEL

CROSS REFERENCE TO RELATED APPLICATIONS

The instant application is a continuation of U.S. patent application Ser. No. 16/271,437, filed Feb. 8, 2019, which is a continuation of U.S. patent application Ser. No. 15/487,037, filed Apr. 13, 2017, now U.S. Pat. No. 10,239,394, issued Mar. 26, 2019, which is a continuation-in-part of U.S. patent application Ser. No. 15/342,761, filed on Nov. 3, 2016, now U.S. Pat. No. 10,363,801, issued Jul. 30, 2019, which claims benefit of U.S. Provisional Application No. 62/250,290, filed Nov. 3, 2015. The disclosures of the above applications are incorporated herein by reference.

FIELD OF THE INVENTION

The present invention relates to a pivotable bed cover closeout device for a cargo bed of a vehicle which is movable to desired positions.

BACKGROUND OF THE INVENTION

Removable or stowable soft tonneau covers for pickup vehicles are known in the art. These tonneau covers provide a vehicle with access to the cargo bed when the cover is pulled/folded back or removed, or, provides protection from the elements with the tonneau cover on/deployed. Such tonneau covers are typically manually unlatched on both sides before being moved into the desired positions.

Currently, tonneau covers have a rail that must be mounted down each side of the pickup box to give the cover a place to attach and seal out the elements. Typically, the rails are aluminum and/or the cover is a fabric cover. These side rails also act as a locator, aligning the bows/top cover as it is installed and positioned and provide a way to tension the top cover. Having to install these rails leads to additional height on the vehicle, cost, a non-cohesive look, and addition weight/complexity in the top.

There are other tonneau systems that are labeled as "low profile" to help fight the height and non-cohesive look. However, these covers still use an additional rail to mount the cover to the pickup bed and gain fabric tension so the design is no different than a "conventional" tonneau cover, it is just a different geometry.

Therefore, there remains a need for a system that eliminates the need for side rails, that utilizes an add-on bracket and/or an integrated bed design as an attachment method, eliminates the need of an additional attachment to gain tonneau cover tension, and provides easy multiple position accessibility into the cargo bed.

SUMMARY OF THE INVENTION

A tonneau cover assembly incorporating a cable-type system or any other type of suitable system that tensions a top cover, providing tension along the side of the cover to seal the cover to a bedside of a vehicle. When cables are used, the cables running down either side of the cover solves many of the aforementioned issues. Using a cable running fore and aft on the pickup truck or sport utility (SUV) vehicle bedside eliminates the need for the side rails to both locate and tension the top cover. The cable tension works to seal out the elements and holds the tonneau cover and bows in place.

With a rear engagement feature according to an embodiment of the present invention, it is readily implementable both as an add on bracket or as an integrated feature in a pickup truck bed or SUV or adapted to any other vehicle type. A rear latching system holds the tonneau in the closed tension state keeping the tonneau secured and tight until the cover is opened by an operator.

Optionally, an integrated boot cover is also sewn into the top cover at the front so that when the tonneau cover is rolled up in the stowed position, the boot cover can wrap and protect the top cover.

Preferably, according to an embodiment of the present invention, pockets are provided to hold the ends of center management bows to set the height and eliminate aluminum rails and attachment features. When the top cover is fabric or other flexible material these pockets, e.g., made of acrylonitrile butadiene styrene (ABS) having predetermined suitable thickness, are preferably sewn to the underside surface of the cover.

The tonneau cover assembly is mounted at a predetermined location in sealing engagement with a tailgate and is pivotable between at least a closed position sealing off with the vehicle tailgate, and a partially open position folded rearward to gain access into the cargo bed. When in the partially open position the opening into the bed is limited to provide the predetermined desired amount of accessibility to the bed, e.g., creates about a 6 inch opening for access. This has significant benefits, including, security, ease of stowing and accessing items near the tailgate, eliminating the need to fully open the tailgate and/or move the entire cover to access the bed, quicker access to the bed, and expedient cargo holding, e.g., hauling longer items such as wood planks extending through the opening and into the cargo bed. Intermediate open position(s) is/are also contemplated.

The tonneau cover assembly is also movable between the closed position, partially open position, and a fully open position for full access to the cargo area, according to an embodiment of the present invention. Intermediate position (s) is/are also contemplated.

The tonneau cover assembly reduces weight and complexity, and eliminates the side rails when compared to current tonneau systems.

According to another embodiment of the present invention, at least one release lever of the rear latching system is mounted in a convenient location for easier access to pull the release lever generally toward the operator for releasing the latching mechanism, when desired. The release lever location(s) reduces or eliminates interference with the cover to operate. The cable system runs fore and aft, and additionally has cable tensioning along the front of the system.

Using a cable running fore and aft on the pickup truck or sport utility (SUV) vehicle bedside eliminates the need for the side rails to both locate and tension the top cover. The cable tension works to seal out the elements and holds the tonneau cover and bows in place.

Further areas of applicability of the present invention will become apparent from the detailed description provided hereinafter. It should be understood that the detailed description and specific examples, while indicating the preferred embodiment of the invention, are intended for purposes of illustration only and are not intended to limit the scope of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will become more fully understood from the detailed description and the accompanying drawings, wherein:

FIG. **1** is a right hand perspective view of a tonneau cover assembly according to the present invention, with the cover material omitted for clarity;

FIG. **2** is a partially exploded view of the tonneau cover assembly of FIG. **1** shown from the left side, in accordance with the present invention;

FIG. **3** is an enlarged rear perspective view of a front attachment assembly connected to a first bow and a first tension cable of FIG. **1**, in accordance with the present invention;

FIG. **4** is an enlarged front perspective view of the front attachment assembly connected to the first bow, in accordance with the present invention;

FIG. **5** is a partially exploded front view of the front attachment assembly of FIGS. **3-4** and the first bow, in accordance with the present invention;

FIG. **6** is an enlarged view of a segment of a rear attachment assembly from FIG. **1** including a rear attachment block connected to a release latch mechanism, in accordance with the present invention;

FIG. **7** is an exploded view of the rear attachment block and partial opening feature;

FIG. **8** is an enlarged rear perspective view of a portion of FIG. **1** showing one end of each of a pair of cover management bows pockets;

FIG. **9** is a perspective view of a tonneau cover access panel assembly, shown in an exemplary environment of use with the cover material omitted for clarity, according to an embodiment of the present invention;

FIG. **10** is a top plan view of the tonneau cover access panel assembly, according to the present invention;

FIG. **11** is a bottom plan view of the tonneau cover access panel assembly, according to the present invention;

FIG. **12** is a side elevation sectional view of the tonneau cover access panel assembly in a closed position, showing a spring loaded detent, according to the present invention;

FIG. **13** is a side elevation sectional view of the tonneau cover access panel assembly in a closed position, illustrating a latch mechanism hook, according to the present invention;

FIG. **14** is a side elevation sectional view of the tonneau cover access panel assembly in an open position, showing a spring loaded detent, according to the present invention;

FIG. **15** is a side elevation sectional view of the tonneau cover access panel assembly in an intermediate open position, showing a spring loaded detent, according to the present invention;

FIG. **16** is a front perspective view of the tonneau cover access panel assembly, depicted in an environment of use adjacent a tailgate, according to the present invention;

FIG. **17** is a rear perspective view of the tonneau cover access panel assembly in a closed position, and shows a bow pocket, according to the present invention;

FIG. **18** is a rear isometric view of the tonneau cover access panel assembly in a closed position, according to the present invention;

FIG. **19** is bottom perspective view of a bow pocket connected to a section taken of the cover, according to the present invention;

FIG. **20** is a perspective view of an exemplary tonneau cover access panel assembly depicted in an environment of use on a vehicle, according to an embodiment of the present invention;

FIG. **21** is a perspective view of a tonneau cover assembly with the cover material omitted for clarity, depicted in an environment of use on a vehicle, according to another embodiment of the present invention;

FIG. **22** is an enlarged perspective view of a rearward portion of the assembly of FIG. **21**, according to the present invention;

FIG. **23** is a top plan view of the assembly of FIG. **22**, according to the present invention;

FIG. **24** is a side elevation sectional view of a mounting bracket connected to the vehicle and illustrating a latching mechanism of the tonneau cover access panel assembly in an unlatched position, according to the present invention;

FIG. **25** is a side elevation sectional view illustrating the latching mechanism of FIG. **24** in a latched position, according to the present invention;

FIG. **26** is an enlarged right hand perspective view of a forward portion of the assembly depicted in FIG. **21**, according to the present invention;

FIG. **27** is a front elevation view of a front portion of the assembly depicted in FIG. **21**, according to the present invention;

FIG. **28**A is a perspective view of a bow pocket that is connectable to the cover of the assembly, according to an embodiment of the present invention;

FIG. **28**B is an exploded perspective view of the bow pocket connected to a bow, and a section taken of the cover that is connectable to the bow pocket, according to an embodiment of the present invention;

FIG. **29** is a partial exploded left hand perspective view depicting some of the connecting features of the rear attachment assembly, according to the present invention;

FIG. **30** is a perspective view of the tonneau cover access panel assembly depicted in an environment of use on a vehicle shown in a closed position, according to an embodiment of the present invention;

FIG. **31** is a perspective view of the tonneau cover access panel assembly in a first open position for partial access into the vehicle bed, according to the present invention;

FIG. **32** is a perspective view of the tonneau cover access panel assembly of FIGS. **30-31** further opened, according to the present invention; and

FIG. **33** is a perspective view of the tonneau cover access panel assembly in a fully open, stored position for full access into the vehicle bed, according to the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

The following description of the preferred embodiment(s) is merely exemplary in nature and is in no way intended to limit the invention, its application, or uses.

Referring to FIGS. **1-8** generally, there is provided a rear attachment assembly (or "tonneau cover access panel assembly") shown generally at **16** illustrated with an exemplary tonneau cover assembly shown generally at **10** that is a cable-type system. The tonneau cover assembly has a cover **12**, e.g., fabric material, soft or flexible material, vinyl or any other suitable material and combinations thereof depending on the application. The tonneau cover assembly **10** also has a front attachment assembly **14**, and a at least one, preferably, a plurality of cover management bows **18**. These cover management bows **18**, most preferably, two bows, are center fabric management bows located between the front attachment assembly **14** and rear attachment assembly **16** running cross bed. For example, the bows **18** help manage the movement of the cover **20** to fold during stowage, etc.

The tonneau cover assembly **10** is provided with a cable tensioning system including at least a first tension cable **20** and a second tension cable **22**. The cables are of the same or different predetermined suitable type(s) and diameter(s) for

providing predetermined tension and tension release forces, dependant on the application. Other tensioning systems are contemplated depending on the application without departure from the scope of the present invention.

The front attachment assembly **14** includes a pair of front attachment portions **24** each connected to the respective ends of a first bow **26** that is a front bulkhead bow. The front attachment blocks **24** provide a no drill attachment toward the bulkhead of the cargo bed. An attachment arm **28** is operably connected to either of the front attachment blocks **24** for attaching the front of the assembly **10**, as will be explained in greater detail below. A cable attachment feature **30**, e.g., with a first aperture, is formed in either of the front attachment blocks **24** allowing for mounting locations for the cable tensioning system. The first aperture preferably is formed on this outward feature of both of the front attachment blocks **24** for connecting both the first and second tension cables **20**, **22**. The attachment arm **28** sets side-to-side and draws the attachment arm **28** to the front. Preferably, the attachment arm **28** slides on and a fastener, e.g., screw, draws the attachment arm **28** to the front, in the direction of the cab.

Referring to the Figures generally, and more particularly to FIGS. **3-5**, in a preferred embodiment, the attachment arm **28** is generally U-shaped, with two lower depending arms, and is sized to partially fit within an opening **31** formed in the front attachment blocks **24**. At least one first fastener **32**, e.g., an attachment bolt, is extendable through at least a second aperture **34** provided on one of the lower depending arms of the attachment arm **28** and a third aperture **36** formed in a first brace **38**. A second brace **39** is held, e.g., using adhesive, against the inside of the other arm for mounting to the vehicle. Thus, once the first bow **26**, or "front bulkhead" referred to interchangeably herein, is put in place on the vehicle and then the fastener **32** is tightened, this draws the attachment arm **28** rearward fixing and sealing the front bulkhead **26** to the bulkhead of the vehicle's bed. In a preferred embodiment, at least one seal is provided on the front attachment assembly **14** and typically seals against the vehicle structure.

The first pair of front attachment blocks are also provided with at least one first mounting bracket **40**, preferably two side-by-side, to connect to the first bow **26**. In a preferred embodiment, the first mounting brackets **40**, **40** slide into the ends of the first bow **26** and fasteners, e.g., bolts, are provided to fix the first bow **26** to the brackets **40**, **40**.

Referring to the Figures generally, and more particularly to FIGS. **1-2** and **6-7**, the rear attachment assembly **16** allows tension to be applied using the cable tension system, eliminating the need for side rails to seal the tonneau cover **12** to the vehicle bed. A pair of rear attachment blocks **42**, or "rear tension block" referred to interchangeably herein, are both operably connected to a rear bar **44**, cross member **46**, and a connector bar **48**, which is a release latch connector bar forming part of a release latch mechanism indicated generally at **50**. The release latch mechanism **50** has a pair of release latches **52** operably connected to respective rear attachment blocks **42**.

Both the right and left hand release latches **52** are tied together so that only one side needs to be operated to open both latches **52**. A fourth aperture **54** or a boss is provided on the block of the rear attachment blocks **42** and aligns with a fifth aperture **56** or a boss provided on the release latches **52** for receiving the connector bar **48**.

A second cable attachment feature **60**, e.g., with a sixth aperture, is formed in either of the rear attachment blocks **42** allowing for mounting locations for the cable tensioning system. The sixth aperture preferably is formed on an outward feature of both of the rear attachment blocks **42** for connecting both the first and second tension cables **20**, **22**.

The pair of rear attachment blocks **42** are also provided with at least one second mounting bracket **62** to connect to the ends of the cross member **46**. In a preferred embodiment the second mounting brackets **62** slide into the ends of the cross member **46** and at least one fastener, e.g., bolts, are provided to fix the cross member **46** to the brackets **62**.

Optionally, a pair of rear mounting brackets indicated generally at **64** (see FIGS. **1-2**) are used.

Referring to the Figures generally, and more particularly to FIG. **8**, where the vehicle and bedrails are omitted for clarity, either of the cover management bows **18** are provided with operably profiled/configured ends for preventing undesirable movement on the existing bed rails. Using a flat edge **66**, the ends touch off on the vehicle bed rails setting the height of the bows **18**/cover **12**. The flat edge **66** sits substantially flat on top of the bedrail such that the bows **18** cannot drop into the bed of the vehicle. An operable predetermined step feature formed in the bottom of the ends helps to set side to side positioning against the vehicle bed sides. By way of example, a step on the bottom drops in and sits just inside the bedrail such that the end cannot move too far either side.

Referring to FIGS. **1-8** generally, the tonneau cover assembly **10** eliminates side rails from the system. In accordance with a preferred embodiment of the present invention, the cable tensioning system incorporates cables **20**, **22** used to create cover **12** tension and seal the cover **12** to the vehicle body. The assembly **10** uses the bedside to locate the fabric management bows **18**, **18** and cover **12** in their side to side and height orientations. The rear engagement feature, e.g., rear mounting brackets **64**, can be an additional bracket (as shown) or incorporated into the bed. The front engagement to the bed feature, e.g., attachment arms **28**, are drawing up on the bulkhead to locate/attach/seal. The assembly **10** preferably includes an integrated fabric boot cover to protect the stowed system when rolled and stowed. Depending on the application, alternative stowing methods are contemplated without deviation from the present invention. A significant advantage over conventional systems is the use of connected right and left hand latches **52**, **52** on a tonneau cover.

For reference throughout the Figures the term "front" indicates the vehicle cab direction.

Referring to FIGS. **9-20** generally, there is provided a rear tonneau access cover panel assembly shown generally at **100** according to an embodiment of the present invention. The assembly **100** is adapted for attachment, preferably, to mounting points in the cargo bed of the vehicle, which can be any mounting arrangement suitable for durability requirements. The assembly **100** is suitable to meet automotive specifications and functionality.

The assembly **100** has a rear attachment assembly with a pivotal portion shown generally at **111** for moving between a closed position and a first open position to partially uncover the opening into the cargo area. The assembly **100** includes at least one rear attachment portion **102**, at least one latch mechanism indicated generally at **104** with a release latch **106** (or "latch handle assembly"), at least one pivotal member **108** with detent, e.g., spring loaded detent, on the pivotal portion **111**, and at least one rear mounting mechanism. Any of these features are located on either side of the assembly **100**, preferably, on both sides of the assembly. Most preferably, the right half of the assembly **100** and corresponding features are substantially mirror image/sym-

metrical to the left half of the assembly **100** and corresponding features depicted in the figures. However, the latch mechanism **104** is such that only one of either release latch **106** (or "handle" or "release lever") need be actuated by an operator for the latch mechanism **104** to be disengaged on both sides to allow pivotal movement of the pivotal portion **111**, as will be explained in greater detail below.

The assembly **100** also incorporates a front attachment assembly, such as previously described front attachment assembly **14**, according to an embodiment of the present invention.

The assembly **100** also includes at least one cover **138**, e.g., soft cover, operably connected to at least the pivotal portion **111**.

Typically, the assembly **100** has at least one mounting bracket arrangement including a rear mounting bracket **101**, e.g., L-shaped bracket, that rests on and/or is operably fastened in a U-shaped mounting bracket **103** by at least one fastener. However, alternatively, depending on the application a suitable portion of the assembly **100** is bolted, screwed, welded, riveted, additionally secured with adhesive and/or epoxy, or combinations thereof or otherwise connected to the U-shaped mounting bracket **103**, or other suitably shaped bracket, and/or directly to the cargo bed, e.g., side walls of the bed, depending on the application. Preferably, at least one attachment portion **102** or "attachment block" is releasably locked into the vehicle bed via the rear mounting bracket **101**.

The tonneau access cover panel assembly **100** is adaptable and incorporates in combination a cable-type assembly (cover is cable tensioned), tri-fold (e.g., cover is segmented and the assembly folds up generally in the direction toward the vehicle cab), roll-up (e.g., the assembly rolls up with the rest of the tonneau, soft panels, hard panels (e.g., two or more smaller hard sections with a living hinge in-line with pivot points), soft tri-fold, hard or rigid, soft or flexible, manual or electric, hybrid, or any other type of tonneau assembly and combinations thereof, depending on the application and predetermined vehicle needs.

The assembly **100** further includes a rear bow **110** and cross member **112**. The rear bow **110** is coupled to both pivotal members **108**, e.g., by at least one fastener such as a nut and bolt, etc, or, alternatively, integrally formed with the pivotal members **108**. The rear bow **110** is also operably coupled to the cover **138** of predetermined tonneau cover material. The rear bow **110** is in sealing engagement with the tailgate for a weather tight seal. The cross member **112** is operably connected to both attachment portions **102**, e.g., slid over a mounting member that is formed on the portions **102** and secured by a plurality of fasteners **109**.

The pivotal members **108**, rear bow **110**, and second cross member **112** are made of a metal, preferably, aluminum. However, depending on the particular application, it is also within the scope of the invention to manufacture the pivotal members **108**, rear bow **110**, and/or cross member **112** of different materials such as steel, composite plastic, or other suitable impact resistant material to withstand predetermined cycling requirements and load without departing from the scope of the invention.

The latch mechanism **104** includes a release latch connector bar **105** having a small rod like structure **114**, preferably of metal, that is operably connected, e.g., partially inserted into the connector bar **105**, to both ends of the connector bar **105** by at least one fastener **107**, e.g., roll pin. Each latch handle assembly **104** includes a hook feature **116** that is biased by a detent mechanism **117**, such as a spring, preferably, a torsion spring. The hook **116** locks into a respective corresponding feature **115** in the assembly, e.g., a recess with an abutting surface formed in the mounting member **101**, and/or vehicle cargo bed frame. In addition to the connector bar **105**, each corresponding rod **114** is also operably coupled to the respective release latch **106** handle, attachment portion **102**, hook **116** and spring **117**. Preferably, the rod **114** is inserted into holes in these adjacent parts to keep the parts together in operational contact. Alternatively, no rod **114** is used and the connector bar **105** is operably connected to these features. In a most preferred embodiment, when the attachment portion **102** is to be coupled to the mounting bracket **101**, a forward surface **148** of the attachment portion **102** enters laterally into an opening **150** formed toward the top of the mounting bracket **101** and is held in the opening **150** by an upper surface **152** when the hook **116** is locked to the mounting member **101**. When the hook **116** is selectively released, the attachment portion **102** is removable from the opening **150**.

Lifting or otherwise manipulating one release latch **106**, on either end, results in the rotation of both hooks **116** via the connector bar **105** to release the hook connection and release some tension. Thus, a user only needs to operate one latch **106**; because of the rod **114** (on both ends)/bar **105**, both sides are released allowing for selective rotation by the user to the fully open position and any intermediate position (s). To lock the attachment portion **102** into the closed position, the hooks **116** are brought back into engagement with the abutting surface **115** on the mounting bracket **101** and the pivotal portion **111** is rotated to engagement with the tailgate **142**.

The pivotal portion's **111** pivot members **108** are pivotally connected to the attachment portion **102** by a second pin **118** or metal rod and has a spring loaded detent. The combination of a spring **120** backing an anterior block **121** against a posterior surface **108***a* of the pivotal members **122** locks the pivotal member **108** in up/down positions (open/closed). This also serves to prevent the pivotal members **108**/rear bow **110** from bouncing in the open and/or closed positions during vehicle transit. Preferably, the spring **120** is a compression spring. FIG. **13** illustrates a closed position, while FIG. **14** illustrates a first open position. Providing intermediate position(s) is/are contemplated, e.g., such as that shown in FIG. **15** because of the detent surface(s)/spring **120**, without departing from the scope of the present invention. FIG. **15** is at about 45 degrees, however, greater or lesser degrees are contemplated.

The rear bow **110** is operably adapted to be in sealing engagement with the tailgate shown generally at **142** (FIG. **13**).

According to an embodiment of the present invention, the rear bow **110** includes an operably shaped channel **124** to slidably receive and retain a seal **126**. Most preferably, the seal **126** is a bulb seal having at least one bulb. Although an exemplary channel **124** is shown, it is understood that the channel **124** can have any shape suitable for receiving an opposing connecting feature of the seal **126**. The seal **126** is slid into the channel **124** and operably held in place by friction and/or at least one fastener and/or at least one other suitable feature to prevent the seal **126** from leaving the channel **124**. Preferably, the channel **124** is generally located on the underside of the rear bow **110**. Most preferably, channel **124**/bulb attaches toward the leading edge of the rear bow **110**. The bulb seal **126** goes against a predetermined portion of the tailgate for a weather resistant seal. The spring loaded detent **120**/**121**/**108** pushes the pivotal members **108**/rear bow **110** in the direction toward the tailgate and therefore pushes the seal **126** against the tailgate.

Generally, the seal **126** is an extruded material of polypropylene, thermoplastic elastomer, soft TPE (Thermoplastic Elastomer), rigid PVC, flexible PVC, PVC vinyl, PVC rubber, ABS, a structural ABS (Acrylonitrile Butadiene Styrene), polypropylene, or other plastic material or other suitable material and combinations thereof suitable for providing a structural portion to remain in the channel **124** and additionally a resilient seal portion, e.g., bulb.

The rear bow **110** also includes an operably shaped second channel **128** to receive a mounting portion of the tonneau cover. Preferably, the mounting portion is an extrusion **129** is sewn to the cover and slid into the second channel **128**. The extrusion/cover **128** is held in place by friction and/or at least one fastener and/or at least one other suitable feature to prevent the cover from leaving the second channel **128**. Most preferably, no fasteners are used to connect the cover to the channel which is a significant benefit. In one embodiment the channel **128** is generally located on the underside of the rear bow **110** toward a leading edge when in the closed position. This allows the cover to wrap up and around the bow edge and back so that the frame of the assembly **100** is not visible. Preferably, the channel **128** is located on the leading edge of the rear bow **110** when in the closed position. The mounting portion is a predetermined shape received in the channel **128** in the rear bow **110**. Other suitable arrangements, P-welts, C-shaped channels, can be used to couple the cover **138** to a bow (such as in known manners described in U.S. Pat. No. 6,322,129 B2 incorporated herein by reference).

According to an embodiment of the present invention, in operation, the user flips the pivotal portion **111** rearward to a first open position to gain partial access to the cargo bed structure. When a larger opening into the structure is desired, the user rotates the release latch **106** in a first direction which disengages the hook **116** from the mounting bracket **101** allowing the pivotal portion **111** with the cover **138** attached to be rolled, or otherwise suitably articulated, as far back toward the front attachment assembly **14** as desired. Rolling the unit all the way to adjacent the front attachment assembly **14** provides a fully uncovered opening into the cargo bed.

In a preferred embodiment, only the mounting bracket arrangement with the rear mounting bracket **101** and mounting bracket **103** stays in the affixed position after unlatching the hooks **116** allowing selective rotation of the rest of the assembly to a fully open position, e.g., positioned adjacent the cab for greatest access into the cargo bed. In a preferred embodiment, once the hooks **116** are unlatched, the cover with the attached pivotal portion **111** is able to be rolled up and stowed toward the front attachment assembly **14**. Straps can be used to keep the rolled assembly **100** in the fully open position and/or any intermediate open position(s).

According to the present invention, there are predetermined desired positions of the assembly **100** with predetermined amounts of access into the cargo bed of the vehicle indicated generally at **130**. The assembly **100**, preferably the rear bow **110**, is in sealing engagement against the tailgate **142** in a closed position. When in the first open position, the pivotal portion **111** has been pivoted back to create an opening of predetermined width, e.g., not more than 6 inch opening. In one or more predetermined deployed position(s) the assembly **100** is provided in combination with a tri-fold cover or any other type of tonneau cover assembly, and when deployed, an opening of predetermined width, e.g., quarter, half, and/or full top access into the cargo bed. These examples are exemplary and not limiting.

Generally, when the assembly **100** is in the first open position the width of the opening into the bed is at least 3 inches, typically 3-10 inches, preferably 4-8 inches, most preferably about 6 inches.

In one embodiment, another safety advantage option of the present invention is that the assembly **100** cannot be operated unless the tailgate is unlatched and/or unlocked.

In one preferred embodiment, a cable attachment feature **134** is provided on the attachment portion **102** for attaching cable(s) **135** for a cable tonneau cover assembly. Preferably, the cable **135** is not a hard attachment to the vehicle to help manage the cable/cover/sealing. The cable **135** eliminates Velcro hook and loop for sealing, which is a significant benefit over conventional systems. Rather, the cable **135** holds the cover **138** taut as desired along at least the outboard sides of the cover **138**. The cable **135** is also attached to at least the front attachment assembly **14**, e.g., to the attachment block **24**. Other attachment point(s) are contemplated depending on the application without departure from the scope of the present invention. Other cable-type arrangements are contemplated depending on the application without departure from the scope of the present invention. According to an embodiment of the present invention, at least one weather resistant seal is provided on the cover, e.g., sewn and/or adhered, near the sides and/or rear of the cover **138**.

Referring more particularly to FIG. **19**, the cable is located within a cable pocket **136**, where the cable pocket **136** is sewn and/or adhered along the outer edge of the cover **138**.

Preferably, a plurality of pockets **140** are provided to hold both ends of center management bow(s) **144**. There are provided at least one, preferably at least two, most preferably at least three, center management bows **144**. The bows **144** set the height and eliminate aluminum rails and attachment features, which such rails are conventionally required. The center management bows **144** also assist with cover management. The pockets **140** have a predetermined suitable height and width depending on the application. The pockets **140** also set the distance between each center management bow **144**. The center management bows **144** run cross-car. The cable pocket **136** preferably runs past outwardly from the pockets **140** for center management bows **144**.

When the top cover is fabric or other flexible material these pockets **140**, most preferably, of molded acrylonitrile butadiene styrene (ABS), having predetermined suitable thickness, are sewn and/or adhered to at least the cover. The pockets **140** are on the underside surface of the cover **138**, thus not visible when the cover **138** is in the closed position. Each end of the center management bows **144** are slid into an opening **146** in a respective pocket **136**. Preferably, the pockets **140** rest on existing original manufacturer bed features/rails and sets the height and cross-car relative to the bed. The pockets **140** sets the height and are thin enough to sew to the cover material. The pockets **140** set the distance between the bows **144** and, in combination with the bows **144**, help with moving the assembly to a fully open position and any intermediate open position(s), e.g., to help with rolling the cover/assembly. The pockets **140** also eliminate the addition of aluminum rails for the cover and eliminate the tongue and loop for cover sealing, which are significant advantages.

While a cable-type tonneau cover assembly is depicted in the figures, the assembly **100** can be used in combination with any type of tonneau cover assembly without departing from the scope of the present invention.

Referring now to FIGS. **21-33**, there is depicted a tonneau cover access panel assembly (or "assembly") shown generally at **200**. The assembly **200** is adapted for attachment to a plurality of pre-drilled mounting points provided on the cargo bed, shown generally at **202** of the vehicle **204**, which can be any mounting arrangement suitable for durability requirements. Alternatively, installation includes first drilling mounting points in the cargo bed. The assembly **200** is suitable to meet predetermined automotive specifications and functionality and/or any predetermined after-market requirements. The assembly **200** has at least one tensioning system, shown generally at **206**, e.g., a cable-type system, and at least one cover **208** that is generally rollable for storage. However, it is understood that alternative tensioning systems and/or alternative covers/storage methods are contemplated depending on the particular applications without departure from the scope of the present invention. The assembly **200** also has a latching mechanism, indicated generally at **210**, that includes at least one release lever, shown generally at **211**, including at least one handle **212** connected to a connecting bar **214** such that the handle **212** can be pulled generally forward (in the direction toward the vehicle tailgate **216**) to release a latch **218** from a mounting bracket **220** connected to the vehicle bed **202**. The location and pull direction of the handle **212** is more convenient and easier to handle for an operator because there is less interference with the cover **208** than if having to turn the handle in a more upward direction, for example, where there would be limited space due to the cover **208** being more in the way above.

The assembly **200** has a rear attachment assembly shown generally at **222** that engages the tailgate **216** to close off a top opening into the vehicle bed **202**. A pivotal portion shown generally at **224** of the rear attachment assembly **222** rotates between a closed position (FIG. **30**) and a first open position (FIG. **31**) or "flipped back" to partially uncover the top opening into the cargo bed **202**. In an embodiment of the present invention, the pivotal portion **224** has detent, e.g., spring loaded detent, (e.g., generally as described previously). At least one rear attachment portion **226** of the rear attachment assembly **222** is selectively connected to the mounting bracket **220**. When the rear attachment portion **226** is not connected to the mounting bracket **220**, the rear attachment assembly **222** can be rolled with the cover **208** toward the cab (FIG. **32**) and secured in the fully open position (FIG. **33**), which uncovers the top opening into the cargo bed **202**. However, when the rear attachment portion **226** is connected to the bracket **220**, the rear attachment assembly **222** and cover **208** cannot be rolled; rather, only the pivotal portion **224** can be moved (between the closed and flipped back positions).

To selectively connect the rear attachment portion **226** to the mounting bracket **220** the operator aligns one end **228** of the attachment portion **226** within a first recess **230** formed in the mounting bracket **220** (FIG. **24**). FIG. **24** illustrates the latch **218** in an unlatched position. The latch mechanism **210** is then moved to engage the latch **218** with the mounting bracket **220** (FIG. **25**). In particular, a bottom surface of the attachment portion **226** is brought down to adjacent a top surface of the mounting bracket **220** and the latch **218**, e.g., which is generally hook-shaped, is rotated to engage a second recess **232** with a top lip formed in the mounting bracket **220**. FIG. **25** illustrates the latch **218** in a latched position, thereby connecting the rear attachment portion **226** to the mounting bracket **220**. When desired, the operator pulls the handle **212** to unlatch the latch **218** again. The handle **212** rotates the connector rod **214** connected thereto, which connector rod **214** is also connected to the latch **218** and rear attachment portion **226**. Thus, pulling the handle **212**, e.g., in the direction generally toward the tailgate, causes the connector rod **214** and latch **218** to rotate in a first direction to unlatch the latch **218** from the mounting portion **220**. In one embodiment, pushing the handle **212**, e.g., in a direction generally away from the tailgate, causes the connector rod **214** and latch **218** to rotate in a second direction to latch the latch **218** to the mounting portion **220**. Alternatively, the latch **218** is operably biased toward the second direction, and pulling the handle **212** overcomes the bias force to rotate the latch **218** to the unlatched position.

Preferably, two handles **212** are connected to the connector bar **214**, and, since pulling either handle **212** causes the bar **214** to rotate, pulling just one handle **212** causes both latches **218** to unlatch from the respective mounting brackets **220**.

At least one fastener **234** connects the mounting bracket **220** to at least one mounting point **236**, e.g., aperture, located toward the upper inner side of the vehicle bed **202**.

The pivotal portion **224** is rotatably connected to the rear attachment portion **226** by two pivotal members **250**. The pivotal portion **224** also has a rear bow shown generally at **238** with at least one channel **240** for holding at least one retainer **242** connected to the cover **208**, e.g., sewn, to secure the cover **208** to the pivotal portion **224**. Preferably, at least one second channel **248** is formed on the sides of rear corner segments **254** of the pivotal portion **224** to receive a respective retainer connected to the cover **208** for more secure, taut connection of the cover **208** to the assembly **200**. A seal **243** is connected to another channel formed in the rear bow **238** for sealing with the tailgate **216** when in the closed position. Preferably, the rear bow **238** is an aluminum extrusion.

The rear attachment portion **226** is also connected to a cross member **244**. The connector bar **214** runs within or directly under the cross member **244**. Most preferably, the cross member **244** is a generally U-shaped member to help protect the latching mechanism features, while at the same time reducing the amount of material needed. At least one cutout **246** is located on the cross member **244** for placement of the respective handle **212**. Preferably, the cross member **244** is an aluminum extrusion.

The assembly **200** also includes a front attachment assembly shown generally at **252** including a front bow **256** connected to front rail corner attachment portions **258**. The front attachment portions **258** rest on the top edge of the side of the vehicle bed and are also connected to the bulkhead of the cargo bed **202**. At least one fastener **260** connects each front attachment portion **258** to a respective mounting point **262**, e.g., aperture, located toward the upper front end of the vehicle bed **202**. Preferably, the fastener **260** is a spin washer with a screw. In an alternative embodiment, the front attachment assembly **252** is adapted to be a no drill attachment, as described previously.

Preferably, the front bow **256** is an aluminum extrusion.

The front bow **256** is connected to the front edge of the cover **208**. A seal is also preferably provided for sealing engagement with the bulkhead.

The front bow **256** is shaped, e.g., curved or bowed, when desired to correspond with the shape of the bulkhead depending on the particular application.

A plurality of pockets **264** are provided to hold both ends of a plurality cover management bows **266**, respectively. The bows **266** are connected within each pocket **264**. Most preferably, at least one fastener **268**, e.g., screw, connects the pocket **264** to the bow **266**. The pockets **264** are also connected to the cover **208**, e.g., sewn and/or adhered in at

least one location of the pocket to the cover (exemplary sew lines **270** to depict locations for the sewing of the pockets **264** to the cover **208** are shown in FIG. **28**A). The bows **266** are thereby connected to the cover **208** by way of the pockets **264**. However, additional attachments to the cover **208** for each bow **266** are contemplated without departure from the scope of the present invention. The pockets **264** rest on the top side edges of the cargo bed **202** (best shown in FIG. **21**).

Preferably, there are at least three bows **264**. Typically, the pockets are acrylonitrile butadiene styrene (ABS). Preferably, the pockets **264** are vacuum formed polycarbonate.

The cable system **206** of the assembly **200** includes at least one cable **272**. The cable **272** is connected to the rear attachment portion **226** and the front attachment portion **258** and runs within a cover pocket **274** along the side of the cover **208**, which is preferably a sewn and/or adhered pocket **274** formed in the cover **208**. The pocket **274** is located generally outboard from a seal **276** connected to the underside of the cover for sealing engagement with the top edge of the cargo bed **202** side walls.

Thus, the cable system runs fore and aft. However, the tensioning system additionally runs inboard as well. The cable, preferably, at least one other cable **278** is connected to the front attachment portion **258** and extends along the inside of the front bow **256** across the bulkhead. In a most preferred embodiment, the cable **278** is connected to a spring **280**, which spring **280** is connected to at least one fastener **282** or bracket located about half way across the bulkhead. On the other side of the fastener **282**, or via an additional fastener connected to the bulkhead, another spring is provided that is connected to another cable, which cable is connected to the other front attachment portion. FIG. **27** illustrates the left hand cable **278** and spring **278** connected to the fastener **282**, which is connected to the bulkhead toward the front of the cargo bed **202**. It is understood that the right side would be substantially a mirror-image to the left side. Thus, the cable system runs fore and aft, and additionally has cable tensioning along the front of the assembly **200**. The springs **278** improve cable tensioning.

Alternatively, the cable **272** is connected to the rear attachment portion **226** at one end, is channeled through the front attachment portion **258**, and is connected at the other end to the spring **280**.

Generally, the seals of the assembly **200** are an extruded material of polypropylene, thermoplastic elastomer, soft TPE (Thermoplastic Elastomer), rigid PVC, flexible PVC, PVC vinyl, PVC rubber, ABS, a structural ABS (Acrylonitrile Butadiene Styrene), polypropylene, or other plastic material or other suitable material and combinations thereof.

Generally, when the pivotal portion **224** is in the first open position, the width of the opening into the bed is at least 3 inches, typically 3-10 inches, preferably 4-8 inches, most preferably about 6 inches. When the assembly **200** is in the open position, straps **284** can be used to keep the cover **208** rolled.

Most preferably, the right half of the assembly **200** and corresponding features are substantially mirror image/symmetrical to the left half of the assembly **200** and corresponding features depicted in the figures.

In one embodiment, another safety advantage option of the present invention is that the assembly cannot be operated unless the tailgate is unlatched and/or unlocked.

The description of the invention is merely exemplary in nature and, thus, variations that do not depart from the essence of the invention are intended to be within the scope of the invention. Such variations are not to be regarded as a departure from the spirit and scope of the invention.

What is claimed is:

1. A tonneau cover assembly adapted for a vehicle, comprising:

at least one rear attachment assembly adapted for operably coupling to the vehicle adjacent a top cargo bed opening of the vehicle, said at least one rear attachment assembly including a pivotal portion operably coupled to a cover, wherein pivoting the pivotal portion in a first direction moves the cover to a first position to close off the top cargo bed opening of the vehicle and pivoting the pivotal portion in a second direction to a second position partially uncovers the top cargo bed opening of the vehicle;

at least one tensioning system connected to the cover and connected to at least the at least one rear attachment assembly to tension the cover;

at least one latching mechanism including at least one release member adapted to selectively unlatch the at least one rear attachment assembly from the vehicle, wherein unlatching the at least one release member allows selective further uncovering of the top cargo bed opening of the vehicle.

2. The tonneau cover assembly of claim **1**, wherein the at least one tensioning system is a cable arrangement including a pair of cables coupled to respective sides of the cover and operably connected to opposite ends of the at least one rear attachment assembly.

3. The tonneau cover assembly of claim **1**, wherein the at least one tensioning system is operably connected to a front attachment assembly adjacent a front of the top cargo bed opening of the vehicle.

4. The tonneau cover assembly of claim **2**, wherein the cable on both sides of the cover additionally extend inboard to operably connect to a front attachment assembly for further tensioning adjacent a front of the top cargo bed opening of the vehicle.

5. The tonneau cover assembly of claim **4**, further comprising at least one pair of springs connected to at least one fastener on the front attachment assembly, wherein each cable that runs inboard is operably connected to a respective spring of said at least one pair of springs for further cable tensioning.

6. The tonneau cover assembly of claim **1**, wherein the cover is rollable to an open/stowed position and securable to a front attachment assembly.

7. The tonneau cover assembly of claim **1**, further comprising at least one seal along at least both sides of the cover in a fore and aft direction adapted to provide a weather resistant seal against the vehicle.

8. The tonneau cover assembly of claim **1**, further comprising at least one seal operably coupled to the rear attachment assembly and/or a front attachment assembly adapted to provide a weather resistant seal against the vehicle.

9. The tonneau cover assembly of claim **1**, further comprising a plurality of cover management bows operably coupled to the cover running cross-vehicle, said plurality of cover management bows adapted to operably selectively engage with the vehicle adjacent the top cargo bed opening.

10. The tonneau cover assembly of claim **9**, further comprising a plurality of pockets operably connected to opposing sides of the cover, wherein each end of the plurality of cover management bows is located within a respective pocket.

11. The tonneau cover assembly of claim **10**, wherein the plurality of pockets is adapted to operably rest on sidewalls of the vehicle adjacent the top cargo bed opening of the vehicle.

12. The tonneau cover assembly of claim 1, wherein the second position creates a gap of about 3 to 10 inches for limited access into the top cargo bed opening of the vehicle.

13. The tonneau cover assembly of claim 1, further comprising a pair of mounting brackets, each mounting bracket adapted to be connected to the vehicle adjacent the top cargo bed opening of the vehicle by at least one fastener.

14. The tonneau cover assembly of claim 13, wherein the at least one release member includes at least one handle operably connected to a connecting bar, wherein pulling the at least one handle causes rotation of the connecting bar to unlatch a respective hook from each mounting bracket thereby unlatching the latching mechanism.

15. A tonneau cover assembly adapted for a vehicle cargo bed structure, comprising:

a cover operably adapted for sealing a top opening of the vehicle when said tonneau cover assembly is in a closed position, wherein the cover is moveable between at least the closed position, a partially open position and a fully open position, said cover including fabric material;

at least one tensioning system operably coupled to the cover to keep the cover under tension when in the closed position for sealing;

a pair of mounting brackets, wherein the mounting brackets are adapted to be connected to opposite sidewalls of the vehicle adjacent the top opening of the vehicle with at least one fastener;

a first recess formed in the pair of mounting brackets;

a second recess formed in the pair of mounting brackets;

a pair of rear attachment portions operably connected at both ends of a cross member, said pair of rear attachment portions including an end feature operable to selectively fit within the first recess;

a pair of cutouts formed in the cross member;

at least one release member including a pair of handles, each rotatable within the pair of cutouts, respectively, and, each operably connected to a connecting bar;

a pair of release latches operably connected toward both ends of the connecting bar and rotatable with the connecting bar, wherein moving either of the handles in a first direction causes rotation of the connecting bar to rotate both release latches from the second recess of the mounting brackets thereby unlatching the pair of rear attachment portions from the mounting brackets in order to allow the cover to be selectively moved to the fully open position when desired, and wherein moving either of the handles in a second direction causes rotation of the connecting bar to rotate both release latches into the second recess of the mounting brackets thereby latching the pair of rear attachment portions to the mounting brackets to allow the cover to be selectively moved between the partially open and closed positions when desired; and

a pivotal portion operably coupled to the cover and to the pair of rear attachment portions, wherein pivoting the pivotal portion moves the cover between the closed position and the partially open position to partially uncover the top opening of the vehicle.

16. The tonneau cover assembly of claim 15, further comprising a pair of front rail corner attachments operably connected to both ends of a front bow member, wherein the cover and the at least one tensioning system are operably coupled to at least the pair of front rail corner attachments.

17. The tonneau cover assembly of claim 16, wherein the at least one tensioning system comprises at least two cables each connected to a respective spring that is operably connected to the front bow member, wherein one end of each cable is connected to one of each of the pair of rear attachment portions, each cable extends through the respective front rail corner attachment, and the other end of each cable is connected to the respective spring.

18. The tonneau cover assembly of claim 15, further comprising at least one pair of seals, wherein the seals are operably connected to the underneath surface of the cover along both sides of the cover in the fore and aft direction adapted to seal against the vehicle's sidewalls.

19. The tonneau cover assembly of claim 15, further comprising at least one fabric management bow connected at opposite ends to a pocket, wherein each pocket is connected to the cover, and, wherein each pocket is adapted to be selectively operably located on the fore and aft sidewalls of the vehicle adjacent the top opening of the vehicle.

20. A tonneau cover assembly adapted for a vehicle that has a cargo bed structure with a top opening and a tailgate, comprising:

a cover moveable between at least a closed position to cover the top opening, a partially open position and a fully open position;

at least one tensioning system that is a cable system operable to tension the cover;

at least one fabric management bow connected to the cover;

a front attachment assembly operably connected to a front of the cover;

a plurality of mounting brackets connected to a plurality of apertures located toward the upper sidewalls of the vehicle by a plurality of fasteners;

a first recess formed in the plurality of mounting brackets;

a second recess formed in the plurality of mounting brackets;

a pair of rear attachment portions operably connected at both ends of a cross member, said pair of rear attachment portions including an end feature operable to selectively fit within the first recess;

a pair of cutouts formed in the cross member;

at least one release lever including a pair of handles, each rotatable within the pair of cutouts, respectively, and, each operably connected to a connecting bar;

a pair of release latches operably connected toward both ends of the connecting bar and rotatable with the connecting bar, wherein moving either of the handles toward a first direction causes rotation of the connecting bar to rotate both release latches from the second recess of the plurality of mounting brackets thereby unlatching the pair of rear attachment portions from the plurality of mounting brackets in order to allow the cover to be selectively moved to the fully open position when desired, and wherein moving either of the handles toward a second direction causes rotation of the connecting bar to rotate both release latches into the second recess of the plurality of mounting brackets thereby latching the pair of rear attachment portions to the plurality of mounting brackets to allow the cover to be selectively moved between the partially open and closed positions when desired; and

a pivotal portion operably coupled to a rear of the cover and to the pair of rear attachment portions, wherein pivoting the pivotal portion moves the cover between the closed position adapted for sealing engagement against the tailgate and the partially open position adapted to partially uncover the opening of the vehicle.

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